

ECONOMIC SURVEY OF EUROPE IN 1982

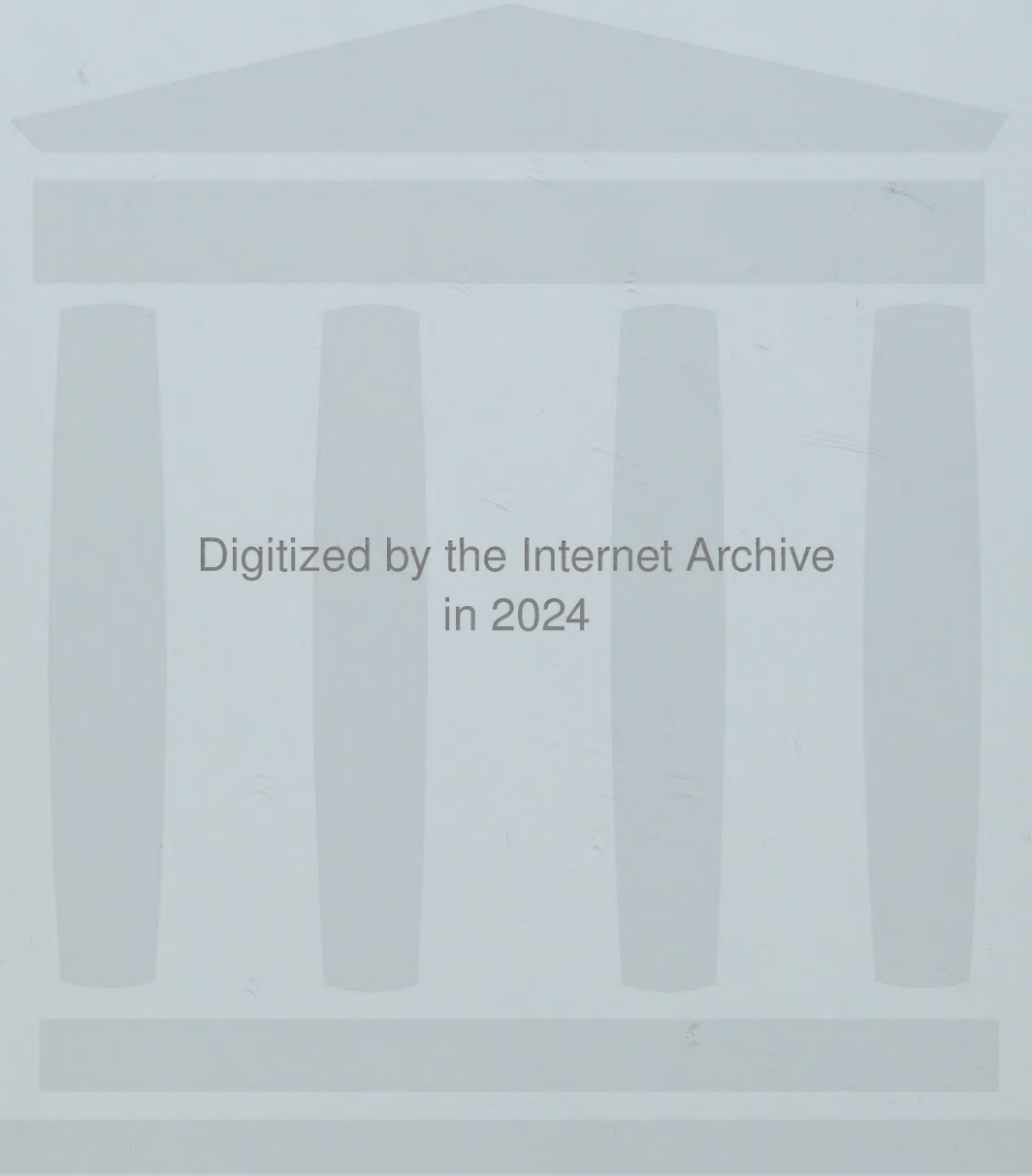
UIC LIBRARY

AUG 20 1984

DOCUMENTS



UNITED NATIONS



Digitized by the Internet Archive
in 2024

UNITED



NATIONS

ECONOMIC SURVEY OF EUROPE IN 1982

Prepared by the
**SECRETARIAT OF THE
ECONOMIC COMMISSION FOR EUROPE
GENEVA**

NEW YORK, 1983

NOTE

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country or territory or of its authorities, or concerning the delimitation of its frontiers.

UNITED NATIONS PUBLICATION

Sales No. E.83.II.E.1

02700P



PREFACE

The present *Survey* is the thirty-sixth in a series of reports prepared by the secretariat of the Economic Commission for Europe to serve the needs of the Commission and to help in reporting on world economic conditions—a task which the Economic and Social Council of the United Nations has entrusted to the Department of Economic and Social Affairs.

This *Survey* is published on the responsibility of the secretariat, and the views expressed in it should not be attributed to the Commission or to its participating Governments.

The pre-publication text of this *Survey* was completed on 7 March 1983 and made available to the 38th session of the Economic Commission for Europe. The final text, incorporating minor changes, was completed on 19 April 1983.

EXPLANATORY NOTES

The following symbols have been used throughout this *Survey*.

.. = not available or not pertinent;

— = nil or negligible;

* = estimate by the secretariat of the Economic Commission for Europe;

| = signifies a break in the comparability of a statistical series.

In referring to combinations of years, the use of an oblique stroke—e.g. 1981/82—signifies a twelve-month period (say from 1 July 1981 to 30 June 1982). The use of a short dash—e.g. 1981–1983—normally signifies either an average of, or a total for, the full period of calendar years covered (including the end-years indicated).

Unless the contrary is stated, the standard unit of weight used throughout is the metric ton. The definition “billion” used throughout is one thousand million. Minor discrepancies in totals and percentages are due to rounding.

CONTENTS

CHAPTER ONE

Western Europe and North America

	<i>Page</i>
1.1 SUMMARY OF RECENT DEVELOPMENTS, SHORT-TERM PROSPECTS AND ANALYSIS OF CURRENT POLICIES	1
(i) Developments in 1982 and the outlook for 1983	1
(ii) A double recession	3
(iii) The problem of inflation	6
(iv) Policy approaches	11
(v) An appraisal of the short-term outlook	12
1.2 OUTPUT AND DEMAND	14
1.3 LABOUR MARKETS	25
1.4 COSTS AND PRICES	29
1.5 THE DECLINE IN PRODUCTIVITY GROWTH AFTER 1973: A FURTHER LOOK AT EXPLANATORY FACTORS	36
(i) The statistical facts	36
(ii) The statistical significance of the "break" in trend	36
(iii) Factors behind the productivity slowdown	38
(iv) Summary of findings	52
1.6 SELECTED DEVELOPMENTS IN LABOUR MARKETS, 1960-1982	54
(i) Labour supply and employment trends	54
(ii) Changes in the sectoral distribution of employment	66
(iii) Changes in the structure of employment in the service sector	74

CHAPTER TWO

Recent economic developments in Southern Europe

2.1 INTRODUCTION AND SUMMARY	83
2.1 SOUTHERN EUROPE (EXCLUDING YUGOSLAVIA)	85
(i) Output and demand	85
(ii) Prices, wages and employment	88
(iii) Policies and prospects	90
2.2 YUGOSLAVIA	94
(i) General trends	94
(ii) The process of economic adjustment	94

CHAPTER THREE

Eastern Europe and the Soviet Union

3.1 GENERAL DEVELOPMENTS	101
(i) Growth of national output	101
(ii) Factor inputs and efficiency in their use	110
(iii) Foreign economic relations	117
(iv) Resources for domestic use	118
(v) Policy objectives for 1983	121
3.2 AGRICULTURE	126
(i) Growth of output	126
(ii) Trends in crop production	126
(iii) Fodder supplies	133
(iv) Livestock output	135
(v) Trends in inputs and efficiency	137
(vi) Changes in agricultural policy	146
(vii) Policy objectives for 1983	148
3.3 INDUSTRY	149
(i) Growth of industrial output	149
(ii) Factor inputs and efficiency trends	154
(iii) Energy supply and consumption	157
(iv) Industrial branch developments	159
(v) Main characteristics of industrial development by country	159

	<i>Page</i>
3.4 INVESTMENT	168
(i) Investment trends	168
(ii) Investment and growth	173
(iii) Investment management and policies	176
(iv) Investment developments	180
3.5 CONSUMER INCOMES AND SUPPLIES	185
(i) Changes in the allocation of net material product	185
(ii) Nominal wages and nominal incomes	187
(iii) Consumer prices and price policies	189
(iv) Real wages and real incomes	191
(v) Personal savings	191
(vi) Consumption	192
(vii) Retail trade	197
3.6 CHANGES IN THE RATE OF GROWTH OF LABOUR PRODUCTIVITY IN THE CENTRALLY PLANNED ECONOMIES DURING THE 1970s: PRELIMINARY ANALYSIS	199
(i) Labour productivity and employment trends 1970-1980	199
(ii) Labour productivity and the five-year plans 1966-1980	201
(iii) Policy outcomes	202
(iv) Output growth and productivity	211
(v) Investment and technology	216
(vi) Policy responses	220
(vii) Summary	222

CHAPTER FOUR

International trade and payments

4.1 OVERVIEW AND BACKGROUND: THE ECE REGION IN THE FRAMEWORK OF WORLD TRADE AND FINANCIAL DEVELOPMENTS	225
(i) Developments in world trade and current account balances	225
(ii) Recent developments in commercial policies	231
(iii) Recent developments in world financial relations	233
4.2 WESTERN EUROPE AND NORTH AMERICA	239
(i) Trade volumes and prices	239
(ii) Changes in regional trade values by origin and destination	241
(iii) Current balances	243
(iv) Policies and outlook	246
4.3 EASTERN EUROPE AND THE SOVIET UNION	248
(i) Trade volumes, prices, terms of trade	248
(ii) Trade among centrally planned economies	252
(iii) Trade with market economies	253
(iv) Changes in trade balances	254
(v) Policies and outlook	254
4.4 DEVELOPMENTS IN EAST-WEST TRADE	257
(i) Western imports	257
(ii) Western exports	262
(iii) Trade prices and the terms of trade	263
(iv) Trade balances	263
(v) Current account	265

LIST OF TABLES AND CHARTS

Chapter one

<i>Table</i>		
1.1.1	Changes in west European GDP and its components, 1981-1983	3
1.2.1	Annual changes in real GDP, 1979-1983	14
1.2.2	Quarterly changes in GNP, 1981-1982	15
1.2.3	Annual and quarterly changes in industrial production	15
1.2.4	Annual changes in real private consumption, 1979-1983	17
1.2.5	Annual changes in real public consumption, 1979-1983	18
1.2.6	Annual changes in real domestic demand, excluding and including stockbuilding, 1979-1983	19
1.2.7	Annual changes in the volume of exports and imports of goods and services, 1979-1983	19
1.2.8	Annual changes in real gross domestic fixed capital formation, 1979-1983	20
1.2.9	Real long-term interest rates, 1960-1982	22

<i>Table</i>		<i>Page</i>
1.2.10	Capacity utilization rates in manufacturing industry, 1973–1982	22
1.2.11	A comparison of capacity utilization rates in manufacturing industry	24
1.3.1	Unemployment rates in western Europe and North America, 1979–1982	25
1.3.2	Quarterly increases in unemployment between 1981 and 1982	27
1.4.1	Annual and quarterly changes in consumer prices, 1980–1982	30
1.4.2	Change in the implicit price deflator of GDP, 1980–1982	30
1.4.3	Annual and quarterly changes in average hourly earnings in manufacturing industry	31
1.4.4	Unit labour costs for the whole economy	31
1.4.5	Changes in the prices of raw materials and intermediate goods	32
1.4.6	Changes in final output prices of manufacturing industry	33
1.4.7	Differences between the change in intermediate product prices and final output prices	33
1.4.8	Factors contributing to the total rise in final output prices, 1981–1982	34
1.4.9	Contribution of imports to the rise in final output prices, 1981–1982	35
1.5.1	Average annual growth rates of productivity (output per person employed) in total economy and its major sub-sectors	37
1.5.2	Summary Table: Testing for a break in the time trend of productivity 1960–1981	38
1.5.3	Decomposition of the productivity change in total economy	40
1.5.4	Decomposition of the productivity change in total economy	41
1.5.5	Capital intensity (K/L) and productivity (P) in manufacturing industry	42
1.5.6	Capital intensity (K/L) and productivity (P) in manufacturing industry: the zero growth of capital stock hypothesis	43
1.5.7	Changes in world market prices of raw materials	44
1.5.8	Changes in world export prices of primary commodities and non-ferrous base metals	44
1.5.9	Changes in the 'real' price of raw materials	45
1.5.10	Average annual rates of change of the relative price of intermediate goods	46
1.5.11	Average annual rates of change of the relative price of energy	46
1.5.12	The relationship between changes in the relative price of energy and productivity growth: cross-country regression analysis	48
1.5.13	The relationship between changes in the relative price of intermediate goods and productivity growth: cross-country regression analysis	49
1.5.14	The estimated contribution of the rise in the relative price of energy to the productivity slowdown in manufacturing industry	50
1.5.15	The estimated contribution of the relative price of intermediate goods to the productivity slowdown in manufacturing industry	50
1.5.16	The share of energy in total gross output of manufacturing industry in 1973	51
	Appendix Table A1: The relationship between productivity and the relative price of energy in manufacturing industry, 1960–1981	53
	Appendix Table A2: The relationship between productivity and the relative price of intermediate goods in manufacturing industry, 1960–1981	53
1.6.1	Percentage growth of working age population and standardized labour force, 1960–1980	55
1.6.2	Growth rates working age population, labour force and employment	56
1.6.3	Average unweighted unemployment rates 1960–1966, 1970–1974 and 1977–1980	61
1.6.4	Service sector employment, 1973–1980, in terms of hours worked and numbers employed	67
1.6.5	Employment by sector	67
1.6.6	Fluctuations in sectoral employment during years of total employment contraction and expansion	73
1.6.7	Growth of employment in the public sector and its contribution to total service employment growth, 1960–1980	75
1.6.8	Growth of employment in the private service sector, 1960–1980	76
1.6.9	Linear time trends in the branch shares of total service employment, 1965–1981: regression coefficients on time	77
1.6.10	Linear time trends in the branch shares of total service employment, 1971–1981: regression coefficients on time	77
1.6.11	The rate of structural change: 1965–1981 and 1971–1981	78
1.6.12	Branch shares of total service employment in western Europe, 1960 and 1980	78
1.6.13	Change in sectoral employment during years of contraction in industrial employment	78
<i>Chart</i>		
1.1.1	Actual growth and forecast recoveries of real GNP in seven major OECD countries	2
1.1.2	Industrial confidence indicator, 1979–1982	5
1.1.3	Inflation and unemployment in western Europe and the United States	7
1.1.4	Index of consumer expectations of price increases over the next twelve months	8
1.1.5	The short-run trade-off between inflation and unemployment in western Europe	9
1.2.1	Industrial production in western Europe and North America after the two oil shocks	16
1.2.2	Gross domestic fixed capital formation by type of asset, in western Europe and the United States, 1971–1982	21
1.3.1	Unemployment rates in selected countries, 1970–1982	26
1.6.1	Ratio of estimated and hypothetical labour force	58
1.6.2	Population of working age, labour force and employment indices 1960–1980	62
1.6.3	Index numbers of total employment, industrial employment and service employment	69
1.6.4	Ratio of service to industrial employment, 1960–1980	72

Chapter two

Table	Page
2.1.1 Annual changes in output in selected south European countries	85
2.1.2 Annual changes in demand in selected south European countries	86
2.1.3 Annual price changes in selected south European countries	88
2.2.1 Yugoslavia: Volume growth of demand and output	95
2.2.2 Yugoslavia: Employment	95
2.2.3 Yugoslavia: Wages, costs and prices	95
2.2.4 Yugoslavia: Balance of payments	96
2.2.5 Yugoslavia: Money supply	97

Chapter three

3.1.1 Changes in growth of the net material product	104
3.1.2 Employment, total and in the material sphere	114
3.1.3 Labour productivity	114
3.1.4 Gross investment	115
3.1.5 Capital productivity	115
3.1.6 Selected energy sources and raw materials	116
3.1.7 Foreign trade of eastern Europe and the Soviet Union	118
3.1.8 Foreign trade turnover by selected regions	119
3.1.9 Changes in NMP produced and NMP used	120
3.1.10 Growth of net material product produced	122
3.1.11 Selected indicators of annual plans for 1983	122
3.2.1 Gross agricultural output	126
3.2.2 Production and yields of grain crops	129
3.2.3 Structure of grain output	131
3.2.4 Production and yields of non-grain crops	132
3.2.5 Yields of non-grain crops in the German Democratic Republic	133
3.2.6 Changes in output and yield of non-grain crops in Poland	133
3.2.7 Changes in domestic fodder output (in feed units)	133
3.2.8 Basic fodder crop output	134
3.2.9 Net imports of grain of east European countries and the Soviet Union	134
3.2.10 Livestock herds	135
3.2.11 Livestock and livestock output	135
3.2.12 Share of poultry meat in total meat production	137
3.2.13 Milk yields per cow	137
3.2.14 Employment in agriculture	138
3.2.15 Distribution of agricultural land	139
3.2.16 Investment and fixed assets in agriculture	140
3.2.17 Investment in agriculture	141
3.2.18 Changes in agricultural fixed assets	141
3.2.19 Stocks and deliveries of agricultural machinery	141
3.2.20 Supplies of chemical fertilizers and plant protection chemicals and consumption of electricity in agriculture	142
3.2.21 Mineral fertilizer: production and consumption	143
3.2.22 Employment and labour productivity in agriculture	143
3.2.23 Capital intensity, capital productivity and labour productivity	144
3.3.1 Growth of industrial output	149
3.3.2 Gross output and factor inputs in industry	152
3.3.3 Productivity indicators in industry	155
3.3.4 Contribution of labour productivity to the growth of industrial output	155
3.3.5 Ratio of net to gross industrial output	156
3.3.6 Primary energy production	157
3.3.7 Energy intensity of economic growth	157
3.3.8 Gross output by major branches	160
3.3.9 Structure of industrial production by major branches	160
3.3.10 Producer (A) and consumer (B) goods parts of industrial output	161
3.3.11 Planned growth of commodity output by industrial ministries	162
3.3.12 Output of some major industrial products	163
3.3.13 Electricity production, consumption and generating capacity	165
3.3.14 Production (A), net imports (B) and apparent consumption (C) of main forms of energy	166
3.4.1 Gross fixed capital formation, investment ratios and incremental capital-output ratios	168
3.4.2 Changes in gross fixed investment 1981, 1982 and 1983 (plan)	169
3.4.3 NMP and investment growth 1980-1982 and plan 1983	172
3.4.4 Implied investment growth for 1983-1985 and 1984-1985	172
3.4.5 Changes in investment ratios	173

<i>Table</i>		<i>Page</i>
3.4.6	Fixed capital formation by type of capital good: output of capital goods industries and foreign trade in machinery and equipment	174
3.4.7	Structural shifts in investment allocations within the material sphere (A) within industry (B) and between the material and non-material spheres (C)	176
3.4.8	Implicit price deflators for investment expenditures	179
3.4.9	Fixed capital brought into operation	181
3.5.1	Allocation of national income	186
3.5.2	Average monthly nominal wages	187
3.5.3	Money incomes	188
3.5.4	Standard deviation of average monthly wages across sectors of employment	189
3.5.5	Consumer price index	190
3.5.6	Real wages and real incomes	191
3.5.7	Increase in bank deposits	192
3.5.8	Social consumption fund	193
3.5.9	Structure of family expenditure	194
3.5.10	Per capita consumption of selected goods	195
3.5.11	Stocks of consumer durables per 1000 inhabitants	195
3.5.12	New dwellings constructed	196
3.5.13	Turnover of retail trade and services	197
3.6.1	Labour productivity 1971–1975 and 1976–1980	200
3.6.2	Decomposition of labour productivity changes in the material sphere and in industry	201
3.6.3	Employment 1971–1975 and 1976–1980	201
3.6.4	Planned and actual labour productivity growth in industry by five-year periods 1966–1985	202
3.6.5	Soviet and world market prices for oil	203
3.6.6	Coefficients of variation of individual sectoral and branch labour productivity growth rates, 1971–1975 and 1976–1980	203
3.6.7	Material intensity of net output in the material sphere and industry	212
3.6.8	Elasticities of the volume output growth in main material input supply branches relative to total industrial output growth in 1971–1975 and 1976–1980	213
3.6.9	Elasticities of the volume of growth of broad imported material input categories relative to NMP growth	213
3.6.10	Relationships of net material product and gross industrial production with labour productivity growth 1971–1980	213
3.6.11	Relationships of employment in the material sphere and in industry with NMP and gross industrial output growth, 1971–1980	214
3.6.12	Labour productivity and employment growth	215
3.6.13	Growth of gross capital formation and investment ratios, 1971–1975 and 1976–1980	216
3.6.14	Capital intensity per employee	217
3.6.15	Apparent depreciation rates, 1971, 1975 and 1980	217
3.6.16	Share of fixed assets under five years old in the total capital stock	218
3.6.17	Czechoslovakia: Age structure of fixed assets in the material sphere	218
3.6.18	Capital productivity and incremental investment output ratios in the material sphere 1971–1975 and 1976–1980	218
3.6.19	Relationships between fixed assets and labour productivity levels	219
3.6.20	Identified investment goods trade between the centrally planned economies	219
3.6.21	Identified investment goods exports of OECD countries to the centrally planned economies	220
3.6.22	Relationship between OECD investment goods exports to the centrally planned economies and gross fixed investment in 1970, 1975 and 1980	221
 <i>Chart</i>		
3.1.1	Growth of net material product	102
3.1.2	Growth of net material product	106
3.1.3	Patterns of economic growth	109
3.1.4	Changes in net material product and factor inputs	112
3.1.5	Efficiency indicators	112
3.2.1	Gross agricultural output: total production, crop and animal production	128
3.2.2	Agriculture: output and factor inputs	144
3.2.3	Agriculture: efficiency indicators	144
3.3.1	Industry: output and factor inputs	150
3.3.2	Industry: efficiency indicators	150
3.4.1	Changes in level of NMP, gross fixed capital formation, and investment ratio	170
3.6.1	Annual percentage changes in output (Q) and productivity (P)	204

Chapter four

<i>Table</i>		
4.1.1	Changes in the value of world trade, by region, 1977–1982	226
4.1.2	Changes in the volume of world trade, by region, 1977–1982	226

<i>Table</i>		<i>Page</i>
4.1.3	Changes in world export values by origin and destination, 1981–1982	227
4.1.4	Selected developed market economies: commodity imports in 1982	228
4.1.5	Market economies: changes in trade prices (in dollar terms), by major commodity groups, 1977–1982	230
4.1.6	Changes in the terms of trade (in terms of dollars), by region, 1977–1982	230
4.1.7	Balance of payments on current account, by major country groups	230
4.1.8	World trade volumes and current-account balances: forecasts for 1983	232
4.1.9	Growth of world production and exports, 1963–1981	233
4.1.10	Changes in the liabilities and assets of countries outside the BIS reporting area at BIS reporting banks, 1978–1982	236
4.1.11	International medium- and short-term bank loans, 1980–1982	237
4.1.12	Changes in the assets and liabilities of eastern Europe and the Soviet Union at the BIS reporting banks, 1975–1982	237
4.2.1	Developed market economies: changes in foreign trade volumes, 1977–1982	242
4.2.2	Developed market economies: change in foreign trade volume, by country, 1981–1982	242
4.2.3	Developed market economies: changes in foreign trade prices (in US dollars) and in the terms of trade, 1977–1982	243
4.2.4	Developed market economies: changes in export values by area of destination, January–September 1982	243
4.2.5	Developed market economies: changes in import values by area of origin, January–September 1982	244
4.2.6	Selected OECD countries: current accounts, 1979–1982	245
4.2.7	South European countries: trade balances and current accounts, 1979–1982	245
4.2.8	Developed market economies: fuel imports as a percentage of total value of exports, 1970, 1975, 1981	246
4.2.9	Developed market economies: export and import growth, current account forecasts for 1983	247
4.3.1	Eastern Europe and the Soviet Union: volume of foreign trade by direction, 1981–1982	249
4.3.2	Eastern Europe and the Soviet Union: volume of foreign trade by country, 1976–1982	249
4.3.3	Eastern Europe and the Soviet Union: change in foreign trade value, volume, unit values and terms of trade, by major partner regions, 1979–1982	250
4.3.4	Eastern Europe and the Soviet Union: trade in main commodity groups, 1981 or 1982	251
4.3.5	Eastern Europe and the Soviet Union: foreign trade, planned and actual, 1982–1983	251
4.3.6	Eastern Europe and the Soviet Union: trade balances, 1979–1982	254
4.3.7	Eastern Europe and the Soviet Union: changes in foreign trade value and trade balances by partner region, 1976–1982	255
4.4.1	East-west trade: value, volumes, prices, terms of trade, 1976–1982	259
4.4.2	East-west trade: change in trade value, by major partner regions, 1978–1982	260
4.4.3	East-west trade: values and volumes by major commodity groups, January–September 1982	261
4.4.4	East-west trade: trade balances, 1973–1982	264
4.4.5	Estimated current account balance of payments of eastern Europe and the Soviet Union with market economies, 1979–1982	265
	Appendix Table 1: East-west trade, by country: growth rates 1976–1982	268
	Appendix Table 2: East-west trade, by country: values, 1970, 1975, 1978–1982	269
	Appendix Table 3: Changes in the value of western imports from eastern Europe and the Soviet Union in 1982, by commodity	271
	Appendix Table 4: Changes in the value of western exports to eastern Europe and the Soviet Union in 1982, by commodity Chart	271
<i>Chart</i>		
4.1.1	Indices of the terms of trade (in dollars)	228
4.1.2	Current account balances 1978–1983	229
4.2.1	Foreign trade and current account balance	240
4.2.2	Export price developments (in dollars)	241
4.4.1 } 4.4.2 } 4.4.3 }	International trade of the developed market economies with eastern Europe and the Soviet Union	258

CHAPTER ONE

WESTERN EUROPE AND NORTH AMERICA

1.1 SUMMARY OF RECENT DEVELOPMENTS, SHORT-TERM PROSPECTS AND ANALYSIS OF CURRENT POLICIES

This section presents a summary of recent developments (i) and prospects (v), discusses the nature of the present recession (ii) and the inflation problem (iii), and points to a number of weaknesses in the present stance of policies (iv).

1.1(i) Developments in 1982 and the outlook for 1983

Last winter it was hoped by most official forecasters that the European economy would begin to recover in 1982, albeit slowly, from its longest and deepest recession for fifty years. After a fall in total GDP in 1981, the various national forecasts implied an increase of some 1.5 per cent for western Europe as a whole. In the United States the Administration was optimistic and forecast 3 per cent GNP growth between the fourth quarters of 1981 and 1982. But once again (see chart 1.1.1) the forecast of recovery proved false: in western Europe (table 1.1.1) growth was a bare one-tenth of one per cent - zero for practical purposes - and in the United States GNP fell by some 2 per cent between the two fourth quarters. Among the individual west European countries the reversal of expectations was particularly important in the Federal Republic of Germany: in February 1982 the official forecast was for 1.5 per cent growth in 1982 - the outcome was a fall of over 1 per cent. Of the 13 countries aggregated in table 1.1.1 GDP actually fell in seven of them, but at the beginning of the year only Norway and Switzerland had forecast a decline.

The expected recovery in western Europe had been based on a cyclical resumption of stockbuilding and some recovery in private consumption (stimulated by rising real incomes due to falling inflation). Exports to countries outside the OECD group were expected to remain buoyant and although imports would accelerate as a consequence of the improvement in activity the trade balance was nevertheless expected to provide some net stimulus to output growth. On the basis of past experience an upturn in investment would be expected eventually to contribute to the recovery, but with large margins of spare capacity and high nominal and real interest rates (plus great uncertainty as to their likely future course) investment was expected to fall in 1982 but by much less than in 1981.

The actual developments are summarized for western Europe in table 1.1.1. Instead of supporting the recovery private consumption ceased to grow at all, something which did not happen in the previous recession: in 1974/75 it continued to contribute to output growth, although at a much reduced rate. Thus the effect of falling

inflation rates on consumption appears to have been overestimated, possibly because the great amount of uncertainty (the threat of rising unemployment, for example) may have encouraged the maintenance of high rates of saving. Uncertainty also increased during the year with growing perceptions of the threat to international financial stability from the growing debt problems of a number of developing countries and major corporations in the developed countries themselves. The problems of the former led to a sharp drop in developing country imports, the prospect of which does not appear to have been clearly appreciated by the developed countries until well into 1982. This was a major factor in slowing down the increase in total west European exports: instead of the nearly 4 1/2 per cent growth implied by official forecasts last winter, exports of goods and services rose by less than 1 1/2 per cent, and the net trade balance had a negative instead of a positive impact on output. (Other factors behind this large difference between forecast and outcome include the weak recovery of output itself and hence the weakness of intra-European trade and perhaps an over-optimistic forecast in the first place: the last would be partly due to the fallacy of composition arising from nearly all governments believing that they can improve their countries' export competitiveness.)

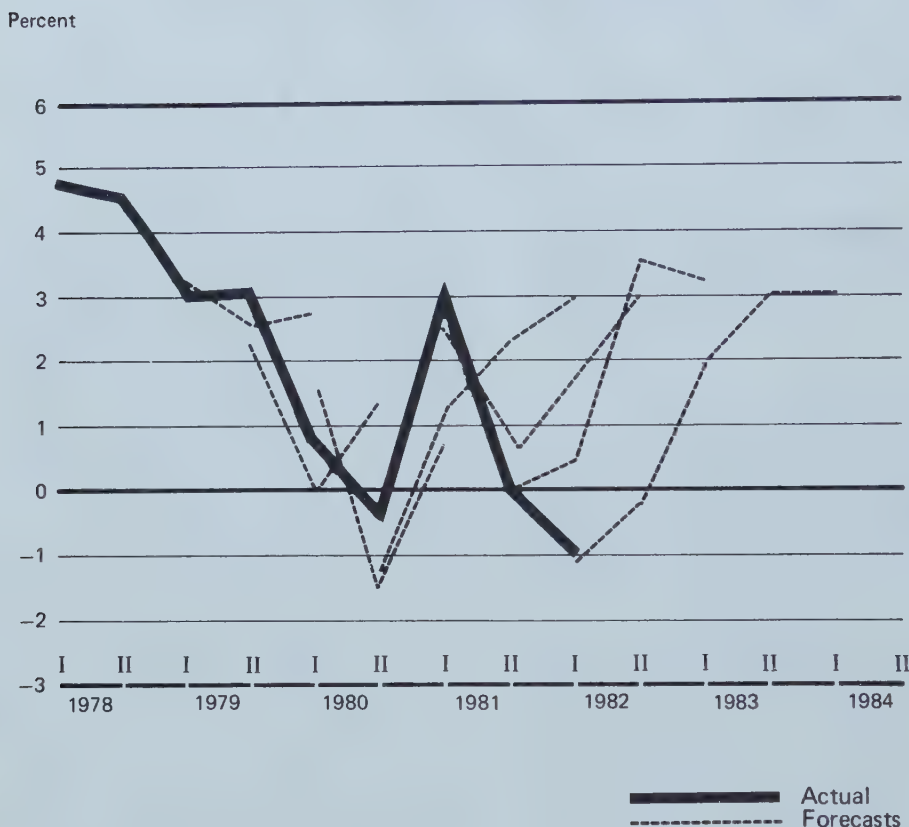
Apart from private consumption and the foreign balance, the other negative influence (and the most important) on output growth was the drop in fixed investment which was much larger than had been forecast. A breakdown by major asset groups is not yet available, but in addition to housing (which has been weak in most countries since 1980) there appears to have been a fall in investment in plant and machinery: up to 1980 this category had held up surprisingly well in the larger economies of western Europe, as well as in the United States (see section 1.2 below).

Thus the main supports to output in 1982 came from public consumption and from stockbuilding. Neither was particularly dynamic however. Public consumption growth was less than in 1981 and reflects the continuing attempts by governments to reduce government expenditure either as one way of reducing public sector borrowing requirements or, in some cases, as part of a long-term objective to reduce the size of the government sector.

The contribution of stockbuilding to output growth was a bit less than forecast, but most of the increase took place in the first half of the year: in the second half there was a large amount of de-stocking as export growth decelerated sharply and the prospects of a sustained recovery evaporated.

CHART 1.1.1.

ACTUAL GROWTH AND FORECAST RECOVERIES OF REAL GNP IN
SEVEN MAJOR OECD COUNTRIES
(Percentage change from previous half-year, seasonally adjusted at annual rates)



Source: OECD, *Economic Outlook*, Paris. The actual changes in GNP/GDP are taken from Number 32 (December 1982). The forecasts are from successive issues starting with Number 25 (July 1979). The first point of each forecast-line is the estimate for the current half-year when the forecast was made (i.e. 1979 I is the estimate for the first half of 1979 in the forecast of July 1979).

a) United States, Canada, Japan, Germany.F.R., France, United Kingdom and Italy (last three GDP, rest GNP).

The prospect of recovery in the United States receded in the third quarter, when GNP growth dropped to 0.2 per cent from 0.5 per cent in the second, and disappeared with a fall in the last quarter. There was no sharp increase in consumers' expenditure following the mid-year tax cuts and after a small increase in stocks in the third quarter, destocking was resumed at a fairly high rate in the closing months of the year.

The disappointing performance of total output growth has of course meant a continuing increase in unemployment, which in western Europe ranged between 3 and 12 per cent of the total labour force in 1982 and in the United States was nearly 10 per cent. There are signs that because of the length of the recession unemployment is now beginning to rise among workers in the central age groups and that it is now hitting regions, industries and occupations that hitherto have been relatively immune.

With these very high losses of output and jobs it is at least something that the rate of inflation has been generally falling and, in some countries, quite sharply. In 1982 the average rate of increase in consumer prices in western Europe was just over 9 1/2 per cent compared with 11 1/2 per cent in 1981: in the last quarter of 1982 the average rate was down to about 8 1/2 per cent. This latter rate, however, is still some way above the lowest rate achieved between the two oil shocks. In the United States the inflation rate has decelerated more quickly than in Europe: in 1982 it was down to 6 per cent (from 9 1/2 per cent in 1981) and in the last quarter was about 4.5 per cent.

The situation in western Europe at the beginning of 1983 is highly reminiscent of that a year ago - levels of output are similar and once again the forecasts are for modest recovery. The forecasts aggregated in table 1.1.1

TABLE 1.1.1

Changes in west European GDP and its components, 1981–1983

	Percentage change			Contribution to the change in GDP ^a		
	1981	1982	1983	1981	1982	1983
<i>A. Four major economies^b</i>						
Private consumption	0.4	0.0	0.3	0.23	0.02	0.18
Public consumption	1.6	1.2	0.9	0.27	0.20	0.16
Gross fixed investment	-3.4	-2.5	0.5	-0.69	-0.49	0.10
Change in stocks	..	..	..	-1.61	0.60	0.11
Exports, goods and services	5.1	1.5	2.3	1.36	0.43	0.64
Imports, goods and services	-0.1	1.8	1.7	0.02	-0.47	-0.45
GDP at market prices	-0.4	0.3	0.6	-0.42	0.29	0.55
<i>B. Nine smaller economies^c</i>						
Private consumption	-0.7	-0.1	-0.8	-0.37	-0.06	-0.47
Public consumption	2.0	1.2	1.4	0.39	0.23	0.29
Gross fixed investment	-4.4	-4.4	-0.8	-0.96	-0.92	-0.16
Change in stocks	..	..	..	-1.85	0.54	0.29
Exports, goods and services	2.8	1.2	2.8	1.25	0.55	1.29
Imports, goods and services	-2.7	1.5	1.2	1.17	-0.64	-0.51
GDP at market prices	-0.2	-0.3	0.7	-0.24	-0.30	0.73
<i>C. Total western Europe^d</i>						
Private consumption	0.1	0.0	0.0	0.08	0.00	0.01
Public consumption	1.7	1.2	1.1	0.30	0.21	0.20
Gross fixed investment	-3.7	-3.0	0.2	-0.76	-0.60	0.03
Change in stocks	..	..	..	-1.67	0.58	0.16
Exports, goods and services	4.3	1.4	2.5	1.33	0.46	0.80
Imports, goods and services	-1.0	1.7	1.5	0.31	-0.51	-0.47
GDP at market prices	-0.4	0.1	0.6	-0.37	0.14	0.60

Sources: National statistics. List of sources of 1983 forecasts is given in the Appendix to section 1.2.

^a The component contributions may not always add up to the total GDP change because of rounding. A further discrepancy in 1983 is due to statistical discrepancies in the original national accounts of the Federal Republic of Germany and the United Kingdom.

^b France, the Federal Republic of Germany (GNP), Italy and the United Kingdom.

^c See list in table 1.2.1.

^d 13 countries.

(country detail by variable will be found in section 1.2) actually imply an even more moderate recovery in 1983 than had originally been envisaged for 1982. Fixed investment is forecast to stop falling in the larger economies, but not in the smaller ones, mainly because of some recovery in housebuilding. Some improvement in export growth is forecast and with stagnant imports the net contribution to GDP growth from the trade balance is relatively large (particularly in the smaller economies). Stockbuilding contributes about one quarter of total GDP growth. Public consumption is again forecast to be stronger than private consumption, particularly in the smaller economies. Such a weak pace of recovery (under one per cent GDP growth in western Europe) will mean a continuing rise in unemployment, but also continuing wage restraint and a further fall in the rates of inflation.

In the United States the Administration has forecast a growth rate of GNP for 1983 of 2.9 per cent with an acceleration in the second half of the year. Between the fourth quarters of 1982 and 1983 GNP is forecast to rise by 4.7 per cent, with a strong recovery in house building.

Before appraising the short-term outlook in the light of these, mainly official, forecasts it is important to discuss the nature of the present recession in rather more general terms as well as some of the policy assumptions on which most of the forecasts rest.

1.1(ii) A double recession

In the post-war period up to the 1970s economic developments were largely determined by demand factors. During the last decade, however, disturbances have mainly come from the supply side and monetary factors have increasingly influenced the state of economic activity.

In a slightly stylized interpretation of the present recession, the origin of the downturn can be located in 1979–1980 with the sharp increases in oil prices and, to a lesser extent, in non-oil commodity prices. There are mainly two channels through which these price shocks from the supply side have influenced economic activity in the industrialized countries. The immediate effect was a rise in production costs, which resulted in a squeeze of profit margins. The well-known consequence of these cost disturbances was an acceleration in the rate of inflation with a subsequent curb on output growth and an increase in unemployment. The impact on output was not as abrupt as during 1974–1975, partly because the second round of oil price increases was stretched out over a period of one-and-a-half years from the end of 1978. The timing of the effect on production was somewhat different in the United States and in western Europe. In the United States industrial production did not grow after the first quarter of 1979, while the downturn for western Europe as a whole, and for most individual

countries, came in the second quarter of 1980. Countries on both sides of the Atlantic experienced a short period of stagflation during which both inflation and unemployment increased (see below sub-section (iii)). The second channel through which the rise in raw material prices had an effect on the supply side was through the squeeze on profit margins which restrained fixed investment and hence the growth of capacity.

A change in the relative prices of raw materials of the size that actually took place requires considerable adjustments in the structure of prices and production. On the side of prices, it should lead, above all, to changes in real wages in order to ease the pressure on profits caused by the sharp increases in input prices (in practice this would mean the rise in nominal wages lagging behind productivity growth); on the side of production it implies the restructuring of production and employment between different branches of the economy. Thus, as a result of shocks on the supply side, the short-run cyclical problem of the recession became interwoven with the long-run problem of structural adjustment.

An explanation of the present recession cannot overlook the special role that economic policy has played in shaping the direction and pattern of economic developments. Since the outset of the second oil shock, economic policies, by aiming primarily at the reduction of inflation, have been generally pro-cyclical, not supporting but restraining economic activity in the downswing. The strategy, particularly in the major countries, has been to set targets for money supply growth which are less than the expected rate of inflation leaving no room for real growth. This has meant a demand restraint on economic activity in addition to the squeeze on supply caused by the increase in raw material prices.

The effect of the monetary factor on the trade cycle could be a stabilizing one if monetary policy were counter-cyclical: restraint during the boom and ease during the slump. If there is a direct positive relation between interest rates and the level of economic activity and which is not subject to any lags, interest rate movements would lessen the amplitude of the cycle without altering its fundamental character. But if monetary policy is pro-cyclical then the monetary factor becomes active in shaping the cycle. Shortage of money is capable not only of dampening the upswing but also of putting it into reverse. The money supply limits or prevents increases in nominal income and this leads to a slowdown or contraction in economic activity, which in turn has further cumulative consequences because investment is unlikely to be maintained unless economic activity is rising. Monetary policy did not accommodate the inflationary forces set in motion by the increase in raw material prices in 1979–1980. Consequently, the money supply set a 'ceiling' to movements in economic activity and eventually triggered a downturn.

The present downturn in production started in North America and western Europe in the second quarter of 1980. The fall was steeper in the United States than in western Europe, and this was also reflected in the annual changes in real GDP. In 1979 GDP growth in the United States was 2.8 per cent and in western Europe 3.5 per cent (table 1.2.1). In 1980 growth was still 1.6 per cent in western Europe, but there was a decline of 0.4 per cent in the United States. While the drop in output was steeper in the United States it was also shorter, lasting only two quarters; in the fourth quarter industrial production was already 4.4 per cent (seasonally adjusted) above the third quarter. The recovery continued into the first quarter of 1981 but then stagnated and a new downturn started in the last quarter. In western Europe

output declined through most of 1980. In the last quarter the fall in industrial production was still 0.6 per cent (seasonally adjusted). At the beginning of 1981 there were signs of a hesitant recovery but, in fact, the decline continued until the last quarter when there was a brief respite until the first quarter of 1982. The decline in output started again in the second quarter. For 1982 as a whole the estimated fall in west European industrial production is 1–2 per cent. In the United States the fall was much larger than in Europe (8 per cent). The greater variability of economic activity in the United States than in Europe is also reflected in the annual change in real GDP in 1982. This shows a fall of nearly 2 per cent in the United States compared with virtually stagnant GDP in western Europe (0.1 per cent increase in 1982).

The recovery from recession, which on the basis of previous experience should have followed the downturn within a year or two, did in fact appear in the United States and western Europe. The upturn was somewhat stronger in the United States but it petered out within a year. In western Europe output stagnated, with some fluctuations, from the beginning of 1981 into the first quarter of 1982. A second recession was then superimposed on the first which resulted on both sides of the Atlantic in a renewed fall in output during 1982. Behind these movements of economic activity there were corresponding fluctuations in the expectations of enterprises as regards short-term cyclical developments. Chart 1.1.2 shows how industrial opinion has moved in the European Economic Community since 1979. After a continuous decline from mid-1979, industrial confidence improved during the second part of 1981, remained stable from January to May 1982 and then weakened again from June.

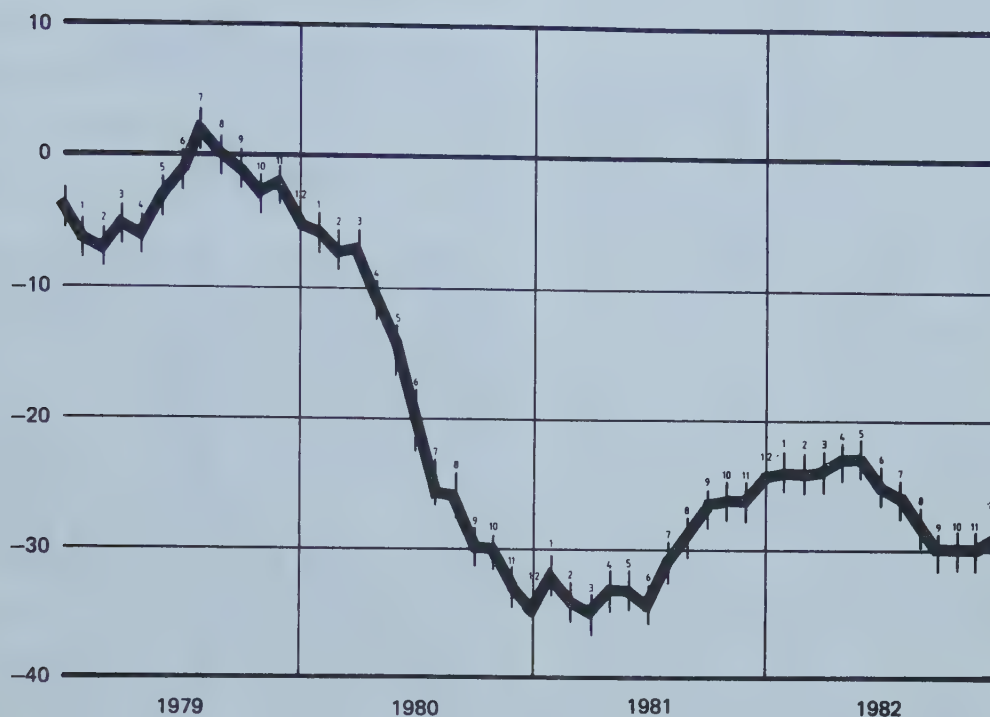
The monetary character of the second recession is easy to recognise. Stringent monetary policy was reflected in sharply rising nominal interest rates from 1979 and, although the inflation rate increased, the real rate of interest also tended to grow. By 1981 real long-term interest rates in most countries had risen by several percentage points from the levels ruling between 1974 and 1978 (table 1.2.9). In 1982 real rates remained high or, as in the United States and the United Kingdom, increased further. Partly under the influence of high and rising real interest rates, investment prospects weakened during 1981–1982: fixed investment dropped in 1982 in western Europe by 2–3 per cent and by over 5 per cent in the United States. Changes in stockbuilding were also adversely affected by high interest rates and the expected upturn in the stock cycle was weaker than expected.

The monetary factor did not only contribute to the second recession by restricting private investment demand within national economies. The international banking system as a whole began to show signs of fragility which led to the emergence of new forces of contraction in the world economy, with a negative impact on developments in the industrialized countries.

After the first oil shock in 1973–1974 the import growth of the developing countries was a highly dynamic element in world trade at just the moment when imports into the developed market economies were showing signs of weakness. The balance of payments deficits of the non-oil developing countries continued to increase but these were easily financed through the international capital markets. The second round of recycling the balance of payments surpluses of the oil exporting countries began in 1979. The financial flows through the international markets provided the necessary financing for the growing deficits of the non-oil developing countries. These countries were thus able to continue to increase their imports faster than their exports and

CHART 1.1.2

INDUSTRIAL CONFIDENCE INDICATOR, 1979–1982 a)



Source: Commission of the European Communities, *European Economy*, Supplement B, No 1 January 1983

a) Composite indicator of production expectations, stocks of finished products and order books for the EEC countries less Greece. The indicator is an average of the net balances (differences between the percentages of respondents giving positive and negative replies, with the sign inverted for stocks).

support economic activity in the rest of the world. In 1981 the oil-exporting countries' surpluses fell sharply, but international bank claims still continued to expand and at only a slightly lower rate than in 1980. The decline in oil exporters' deposits were offset by funds from the financial markets in industrial countries. With the support of international credit expansion the non-oil developing countries could still increase the value of their imports by 12 per cent in 1981. Although most of this import growth was from the other non-oil developing countries, imports from the developed market economies also grew by some 9 per cent. In 1982 the non-oil developing countries' capacity to import was however drastically affected by falling commodity prices, rising debt service payments and, above all, by the shrinking availability of external credit. The value and volume of their imports declined, particularly during the second part of the year. External financial difficulties also led to cutbacks in the imports of the east European countries (from the market economies the decline in volume was 14

per cent). These cuts in imports added further deflationary pressure on economic activity in the industrialized countries.

The precarious international financial situation is characterized by a sharp increase in the number of countries which have or are likely to resort to debt rescheduling, as well as of private borrowers who have fallen into difficulties. On the side of the banks, increased provisions for losses on loans have become necessary. As a result the overall volume of international bank lending slowed down noticeably in 1982. This is reflected in a sharp drop in lending to the non-oil developing countries and to the centrally planned economies.

After an over-expansion of credit by the international banking system, the stage was reached in 1982 when confidence was beginning to break down and scarcity of credit began to have a further restrictive effect on economic activity. Monetary factors did not only help to start the second recession in the developed market

economies in 1982 but also, through the international banking system, deepened it by making the current recession world wide.

1.1(iii) The problem of inflation

It is evident from chart 1.1.3 that during the last four years the economies of western Europe have been going through the second inflationary cycle since the early 1970s. The downswing has lasted two years and the prospects are that a third year will follow with a further slowdown in the rate of inflation and still greater unemployment. During the current year, the previous trough in the inflation rate, in 1978, will most probably be equalled (in the United States the inflation-unemployment line has been similarly moving towards the previous lowest inflation rate which was in 1976). For most of the period an inverse relationship has existed between the rate of inflation and unemployment, except for those few years when (short-run) stagflation prevailed, with simultaneously rising inflation and unemployment. This can be interpreted as indicating that rising aggregate excess supply, reflected in lower utilization of productive capacity, has reduced inflation even if the process has been rather protracted. In 1983 inflation is being pushed back further and its rising trend since the latter half of the 1960s seems to be breaking. This is happening while unemployment is still rising from the low levels attained in the mid-1960s.

As to the objective of reducing inflation, the restrictive stance of economic policy, adopted in most industrialized countries after the second oil shock, has met with some success but at a high cost in terms of lost output and unemployment. The dominant view behind the anti-inflation policy has been that it should aim directly at inflation and, by eliminating it, create conditions for progress towards full employment without inflation.¹ If this view is still seriously held by policy makers, a difficult policy problem presents itself because inflation is still high in comparison with the very moderate rates in the 1960s. In this time perspective, long-run stagflation has not yet been overcome and, therefore, the restrictive, anti-inflationary stance of economic policy should continue, otherwise, according to the above policy view, sustained economic growth would not be possible. However, there are signs that in this respect policy approaches have been softening: for example, in the Federal Republic of Germany, the Federal Government states in its report to the Parliament: "The prime target of the Federal Government is the fight against unemployment and the return to a dynamic self-generating economic growth."² In the United Kingdom the Chancellor of the Exchequer has stated that, as a consequence of rapidly falling inflation and interest rates, money in the narrow sense might grow rather more rapidly.³

More concretely and more importantly, it should be noted that in the United States both monetary and fiscal policy had already eased in 1982. Since July 1982, the Federal Reserve has made it clear that it would be flexible in interpreting its monetary targets and would tolerate overshooting. As regards fiscal policy, the estimates made by the OECD indicate that budgetary changes were expansionary in 1982 and will continue to be so in the current year.⁴

The seriousness of high and rising unemployment is one of the main factors pressing governments to adopt less restrictive policies and even to undertake action to stimulate economic activity. The apparent decline in inflation is also encouraging a change in policy emphasis. There are several factors at work in the present phase of the downswing in economic activity which would continue to reduce inflation further, even during the initial stages of a revival:⁵

Existing conditions of large excess supply in the goods and labour markets would, as such, dampen inflation;

Inflationary expectations are on the decline, and presumably lagging behind the actual fall in inflation;

The inflationary pressure from international commodity markets will not flare up if the revival is moderate;

Strong productivity increases, with little new employment during the early stage of the revival, would hold down the cost-push pressures on prices.

Inflationary expectations are the critical and also most uncertain element in the inflationary process. Their sensitivity to actual inflation, to policy announcements and policy changes, to shock-like disturbances such as large devaluations, and to other economic, social and political events are difficult to assess. One may, however, presume that the slowing down in the rate of inflation, well publicized in various media, may have had a considerable downward impact on expectations in the course of the last two years or so. Some suggestive support for this view can be derived from the developments shown in chart 1.1.4. The change has not been dramatic, indicating that these expectations are 'sticky' in adjusting to the reduced rate of inflation.

There is ample empirical evidence that raw material prices are rather sensitive to shifts in the general demand and supply situation in the industrialized countries, as is also obvious from their decline during the present recession. Even oil prices have been reacting to falling demand after showing at first a definite downward stickiness. The possibility of an upturn in raw material prices, if economic activity in the industrialized countries revives, is real and this may slow down or halt an otherwise falling rate of inflation. Raw material prices, however, may not be an independent source of a new inflationary upsurge unless for some reason speculative booms or supply disruptions develop in raw material markets.

Past experience shows that productivity tends to rise relatively fast in the beginning phase of a cyclical revival because there is slack productive capacity, including hoarded labour, which can be quickly put back into use. This special feature of a revival becomes weaker the longer the recession lasts because more plants are closed down, more capacity is scrapped and there is less hoarding of labour.

The underlying inflationary cost pressure from the side of wages has become less severe but it still remains an important factor in sustaining inflation at present levels. The weakness in the labour markets with rising unemployment will reduce further the rate of increase of nominal wages, but the deceleration seems to be slow. In the industrialized market economies of western Europe, the annual rate of wage increase is still not much below 10 per cent on the average, and if productivity growth stays low a considerable inflationary push will persist. A revival, assuming that it was accompanied by productivity gains would, of course, in the short run weaken this cost push effect on inflation. However, unless there is a strong upturn in real capital formation together with a general revival of output, a ceiling of low, 'true'

¹ See *Economic Survey of Europe in 1981*, pp. 68-71.

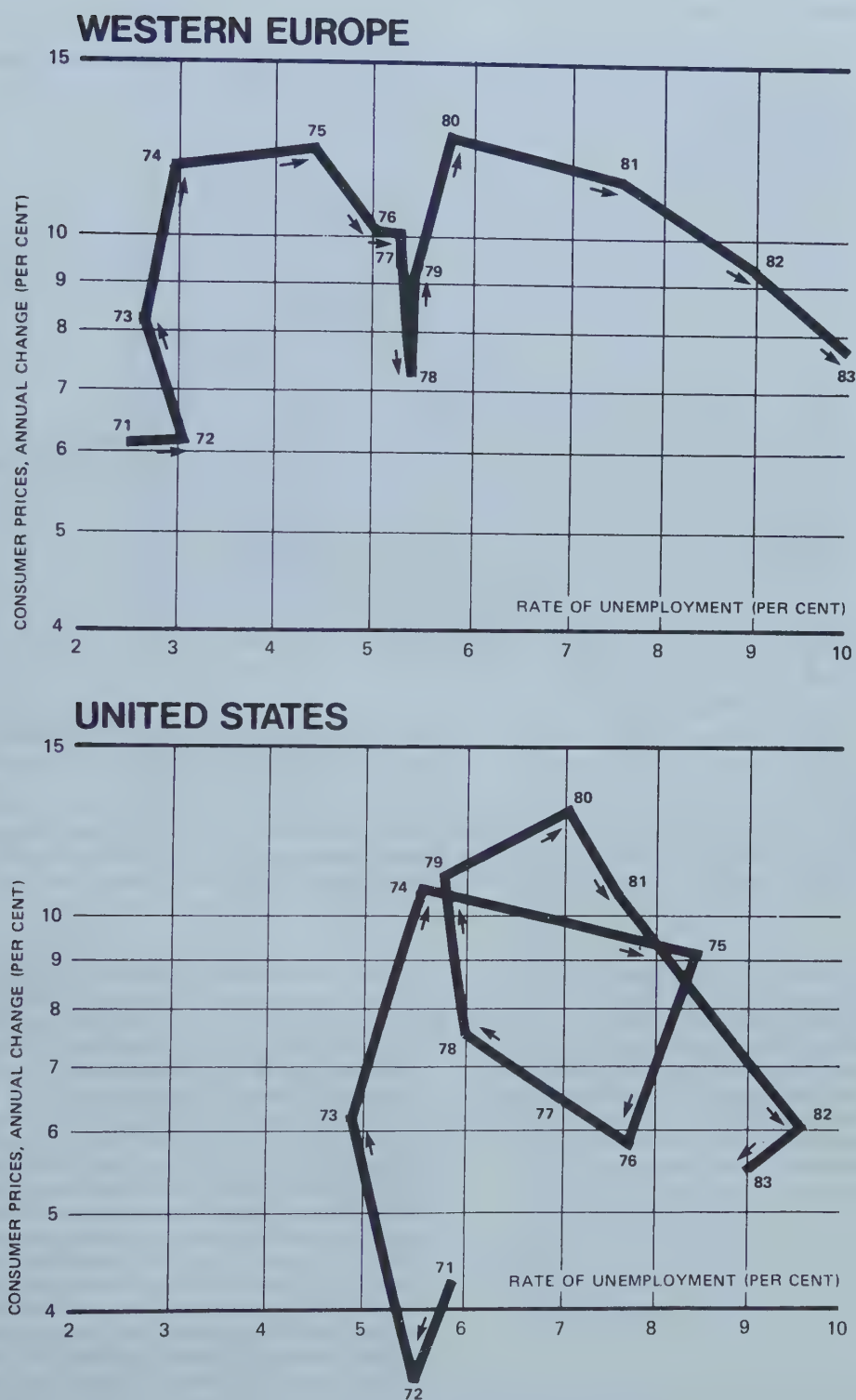
² *Jahreswirtschaftsbericht 1983 der Bundesregierung*, Deutscher Bundestag 9. Wahlperiode, Drucksache 9 2400 p.10.

³ "Sir Geoffrey Howe pledges flexible approach to UK monetary policy", *Financial Times*, 22 October 1982.

⁴ OECD *Economic Outlook*, 32, December 1982, table 9, p.24.

⁵ See *Economic Survey of Europe in 1981*, pp. 74-75.

CHART 1.1.3.

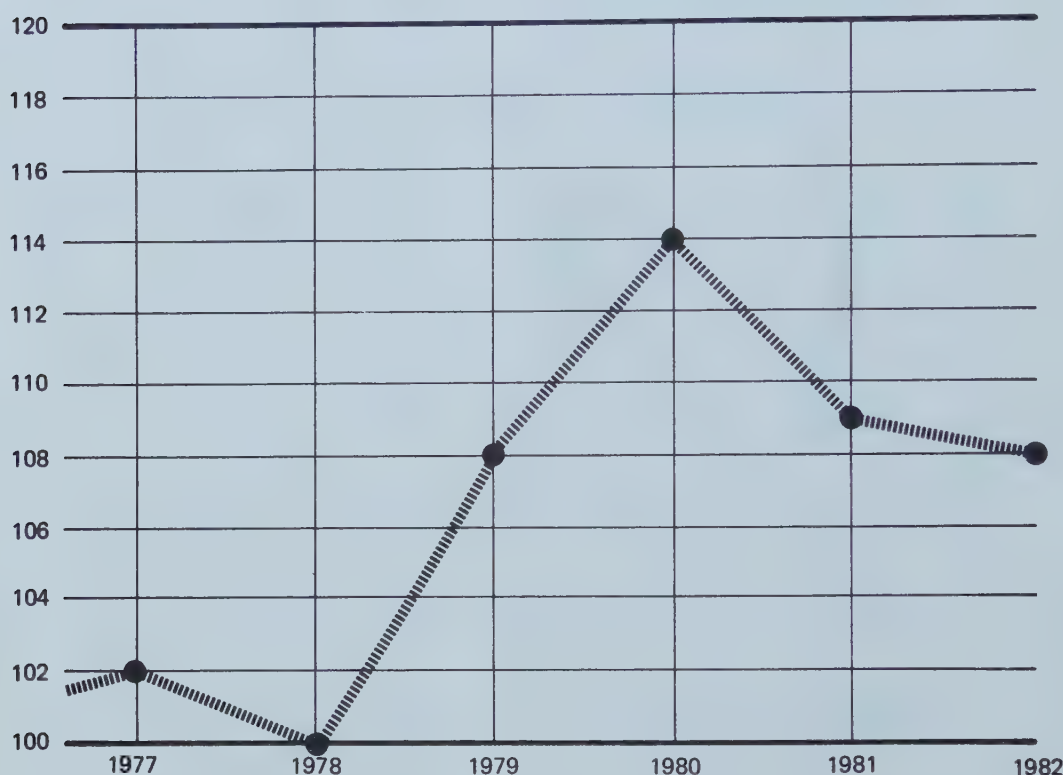
INFLATION AND UNEMPLOYMENT IN WESTERN EUROPE
AND THE UNITED STATES

Source: OECD, *Main Economic Indicators*. Paris (monthly) and EUROSTAT, *Employment and Unemployment*.

CHART 1.1.4.

INDEX OF CONSUMER EXPECTATIONS OF PRICE INCREASES OVER THE
NEXT TWELVE MONTHS
(1975=100)

Annual observations, 1977–1982



Source: Commission of the European Communities, Supplement C of the *European Economy*, December 1982 and prior issues. The index is a weighted average of consumer expectations in Belgium, Denmark, Federal Republic of Germany, France, Ireland, Italy, Netherlands and United Kingdom

productivity growth would be approached very quickly and, thus, new inflationary cost pressure might re-emerge even though wage inflation itself may continue to fall as a consequence of high unemployment.

The slow growth of output since the mid-1970s has been reflected in the development of productive capacity and potential productivity. The following estimates indicate the strength of the slowdown in potential productivity in manufacturing industry:

Potential productivity growth in manufacturing industry		
	1965–1973	1973–1982
	(Per cent per annum)	
Western Europe ^a	5.1	3.7
Canada	3.0	2.2
United States	2.8	2.8

Note: For the method of estimation, see *Economic Survey of Europe* in 1981, pp. 63–65.

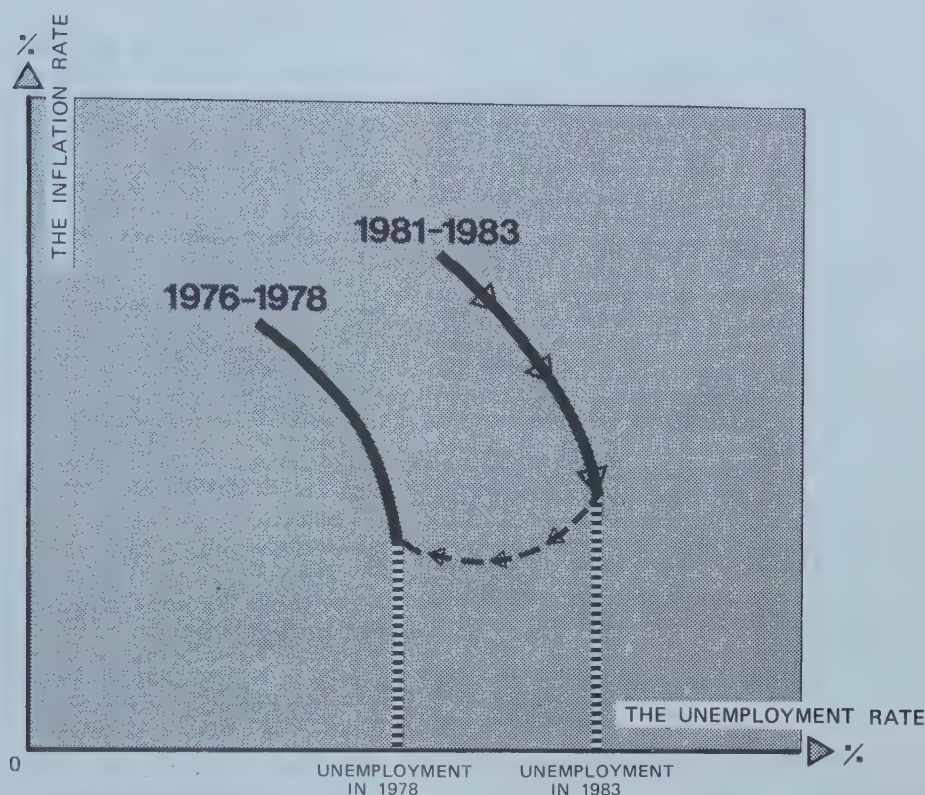
^a Austria, Finland, France, Federal Republic of Germany, Italy, Norway, Sweden, United Kingdom.

The productivity ceiling has been falling except in the United States where it already was low before the 1970s.

It is a widely held view that a recovery from recession might encourage wage earners to try to catch up with their long run targets for real earnings as well as with the earnings of other, stronger groups of workers. This catching-up phenomenon might contain the potential for setting off a cumulative wage-wage spiral. However, in the event that employment would only react, as is usual, with a considerable lag to an upturn in activity, the situation in the labour market would hardly encourage catching-up effects in the early stages of the recovery and would therefore keep this inflationary factor under cover. As to wage earners' long-run targets for real earnings, a recent study suggests that during the last decade there might have been a tendency (in the OECD countries) to revise these targets slowly downwards and more into line with lower output growth.⁶

⁶ D. Grubb, R. Jackman and R. Layard, "Causes of the Current Stagflation", *Review of Economic Studies*, 1982, pp. 720–723.

CHART 1.1.5.

THE SHORT-RUN TRADE-OFF BETWEEN INFLATION
AND UNEMPLOYMENT IN WESTERN EUROPE

Short run stagflation seems to have shifted the trade-off curve between inflation and unemployment (the Phillips curve) outwards. In western Europe these shifts occurred in 1974-1975 and in 1979-1980 when sharp increases in import prices gave a strong push to inflation (see chart 1.1.3). One way of defining the basic policy issue now confronting the industrialized countries is to consider the possibility of shifting the curve inwards again.

If a revival does take place sometime during 1983, it will probably not be supported by very strong expansionary policies: it would rather take place in the framework of some easing of the restrictive stance of policy. With some exceptions, fiscal policies will not be expansionary⁷ because in a great many countries there is a general commitment to lower government deficits; hence, most of the relaxation might be limited to a more flexible implementation of monetary policies, as in the United States.

With this prospect for general economic policies, it is unlikely that a revival would be anything but a very moderate one. The risks of a new flare-up of inflation would remain very small indeed in such conditions. A weak recovery would also mean that the market economies would not move very far back towards full employment, and would not even reach the "non-accelerating inflation rate of unemployment" (or NAIRU), the rate of unemployment at which the rate of inflation remains constant.

In chart 1.1.5, the stylized downward sloping trade-off curves (for western Europe) are drawn for the two periods 1976-1978 and 1981-1983, when unemployment was on the rise and inflation on the decline. The question is whether the expected recovery would actually bring forth a movement of the trade-off curve from its 1981-1983 position back to its position in 1976-1978. (In the United States the question is whether the inflation-unemployment loop swings back below the line for 1976-1978 and towards the origin. See chart 1.1.3.)

The above-mentioned concept of the "non-accelerating inflation rate of unemployment" varies from one country to another and over time. Not many numerical estimates of this rate are available for different countries. One estimate for the United States sets it as high as 7.9 per cent with allowance for reasonable expectations of inflationary shocks.⁸ If this estimate is roughly correct, there would be room in the United States to lower the present unemployment rate (over 10 per cent) by some 2-3 percentage points without the risk of a flare up of inflation, and it could be somewhat more if inflationary shocks could be ruled out. For western Europe the rate might be lower, since unemployment in Europe has been lower than in the United States throughout the post-war period, but it may have been drifting upwards lately. The present recession has lasted a fairly long time and, consequently, the structural adjustment mechanism has slowed down. Therefore,

⁷ See OECD, *Economic Outlook*, December 1982, table 9, p.24.

⁸ Otto Eckstein, *Core Inflation*, p.104, Prentice Hall, Inc., Englewood Cliffs, New Jersey.

bottlenecks may reappear earlier than in past recoveries. If bottlenecks manifest themselves in sectors of the economy where prices are relatively flexible upwards, some prices may start accelerating and spread to other sectors and thus put an end to the slowdown or stabilization of the rate of inflation. In 1978, when the inflation rate was at its low point after the first oil shock, the unemployment rate in western Europe, on average, was less than 6 per cent. It is plausible that the "non-accelerating inflation rate of unemployment" may have climbed even higher than the 1978 rate of unemployment. It would then be impossible to shift the trade-off curve in one go back to its 1976-1978 position without at least some acceleration in the rate of inflation. If economic policies do not provide active support to an eventual recovery, it is most unlikely that the danger zone would be approached where the risk of new inflation was imminent, unless fixed investments recovered and turned the recovery into a boom.

The uncertainty concerning the problem of inflation during a recovery of economic activity reduces to the general question of how changes in nominal GNP are divided between prices and quantities. This division presumably varies over time and across countries and is different during upswings and downswings. A recent study⁹ on the responses of prices and real output to nominal GNP changes in the United States finds uniformly high responses of real output and low responses of prices. The same study provides evidence of short run inertia in price setting behaviour. The results of this study support the notion presented above that, in a recovery with rising nominal GNP, most of the increase would represent a recovery in real output.

The preceding discussion of the nature of the recovery suggests that the actual development of inflation and unemployment might follow a course such as the one depicted by the arrowed line in chart 1.1.5, if recovery were strong enough to lower unemployment to the rate that prevailed in 1978.

At the present time there are no definite signs that a recovery might begin soon, although many forecasters are predicting that it will occur in 1983. Since predictions of recovery have often proved wrong during the present recession (see chart 1.1.1), recovery may not come about as expected for the reason that the prolonged recession may have created a general business climate which is not very favourable to the prospects of recovery. If deflation were to continue, a further fall in the inflation rate would be experienced, but the chances of the market economies being able to avoid for very long a renewed upturn of inflation during an eventual recovery would be smaller than now. Declining investment and slower structural adjustment would increase the inflexibility of the supply side, and would create bottlenecks and other supply deficiencies which might easily rekindle inflation when aggregate demand expands. Supply-side efficiency can best be fostered in circumstances of growth sustained by strong, real capital formation.

It is possible that the decline in inflation in the near future will be faster than is presently expected. In particular, a downward shock to prices might come about if there is a large drop in the price of oil. But the fall in the underlying (or core) rate of inflation would not be as large. There are several elements of a longer run nature among the factors influencing inflation (which

may be partly hidden by changes in the conventional price indices):

It was suggested above that, although the potential catching-up effect on wages may have become weaker during the prolonged recession, some increase in wages may still be due to this effect when recovery gets under way. The same tendency may also exist among firms which, after the recession, may try to recover some of their lost profits by raising prices.¹⁰

The recession has depressed raw material prices to levels at which they are below the production costs of many commodities. This has discouraged investment and compromised future supply and, thus, lowered the level of demand at which prices could rise again. OECD estimates that the fall in raw material prices may have accounted for 1-2 percentage points of the recorded deceleration in OECD consumer prices and, hence, measured inflation may be understating, due to this factor alone, the underlying rate by the same amount.¹¹

The so-called "misalignment" of exchange rates may also lead measured inflation to either understate or overstate the underlying rate in individual countries if not on the global level. In particular, the overvaluation of the US dollar has held down prices in the United States and when the dollar misalignment eases the recorded US inflation rate may rebound. The strength of the dollar may also have had a dampening influence on raw material prices. One empirical study claims that the real price of primary commodities (in relation to prices of manufactures) is reduced by a dollar appreciation.¹² In the case of the Federal Republic of Germany, the measured inflation rate may have overstated the underlying rate due to the misalignment effect in the other direction.¹³

The inertia in the response of inflation to deflationary forces (especially in the response of the underlying inflation rate, which may have stayed 1-2 percentage points above the recorded global rate of inflation) has been clearly evident during the current recession. If the current deflationary forces, whether induced by policy actions or by the recession, are allowed to continue to influence general economic developments, then depression or even a serious disruption in the functioning of the economic system might appear before the inertial inflation finally gives way. In the final analysis, it is a matter of political choice whether countries are willing to pay this high price for beating inflation. However, the growing political support within and outside governments for action to stimulate economic activity suggests that there is growing awareness of the great risks now involved in persistently holding on to restrictive anti-inflationary policies.

The above analysis has attempted to convey the view that rising inflation is not a necessary concomitant to expanding productive activity and that, in the present depressed economic circumstances, the risks of that happening are very minor indeed. It is simply not true that expansionary demand policies are always inflationary. There have been periods in the past when demand policies have led to rapid growth combined with low or declining inflation.¹⁴ In 1952 the annual rate of inflation in western Europe was 6.5 per cent, while the GNP growth was 1.9 per cent; during the following three years inflation varied between 0.6 per cent and 2.5 per cent, while the GNP growth rate remained high and varied between 4.4 per cent and 6.5 per cent. To take another example: in the United States, the rate of inflation in 1961 was 1.1 per cent and the GNP growth 2.6 per cent; during the following four years inflation remained low -

¹⁰ See *Economic Survey of Europe in 1981*, p.74.

¹¹ OECD, *Economic Outlook*, No.32, December 1982, p.46.

¹² Rudiger Dornbusch, "Flexible Exchange Rates and Interdependence", Working Paper No. 1035, National Bureau of Economic Research, November 1982.

¹³ John Williamson, *Global Macroeconomic Strategy in Promoting World Recovery*, Institute for International Economics, Washington D.C., December 1982, pp. 22-23.

¹⁴ John Williamson, *op.cit.*, pp. 26-28.

⁹ Robert J. Gordon, "Price Inertia and Policy Ineffectiveness in the United States, 1890-1980", *Journal of Political Economy*, Vol.90, Number 6, December 1982.

in the range of 1.1 to 1.7 per cent - while output fluctuated between 4.0 and 6.0 per cent.

1.1(iv) Policy approaches

After the second oil shock, the main burden of anti-inflation policy has been borne in most industrialized countries by monetary policy. This emphasis is based on the doctrine that inflation is basically a monetary phenomenon and, therefore, monetary policy should be the main means of eliminating it. More specifically, it is held that the rate of increase in money supply should be reduced so as to accommodate only real growth. By restraining the growth of the money supply, it is argued, the rate of increase of nominal incomes and aggregate demand will be reduced relative to output and this will create favourable conditions for curbing inflation.

The more extreme version of the doctrine has asserted that a policy of following a strict monetary rule would have no impact on real output, and so the inflation rate would respond contemporaneously and proportionately to anticipated changes in money supply. This version of the doctrine has, however, been refuted by actual events during the last few years when monetary policies in many countries have followed the announced targets for money supply growth: real output has responded quite strongly to monetary restraint. The proposition is based on several theoretical assumptions relating to expectations (the rational expectations hypothesis), the spread of information on economic policy and other economic developments, and price formation. This is not the place to discuss the importance and relevance of the rational expectations hypothesis, which has had such a powerful influence on macroeconomic research and policy in the 1970s and has raised the highly important policy issue of how expectations and behaviour in the economy are affected by policies - expected or actual. In this connexion, it should only be stressed that the assumption of perfect market clearing, i.e. that prices are flexible, responding immediately to excess demand or supply in the markets, does not stand up well to empirical analysis.¹⁵

The implementation of a strict money growth rule to support a recovery and expansion of economic activity after a severe recession, with remnants of inflation still present, runs into a number of problems which have their roots mostly in the premises of the prevailing policy doctrine itself. First of all, if the real world were to behave and react to changes in the money supply in the way that the doctrine presupposes it would mean that every increase in the rate of growth of money would be accompanied by an acceleration in the rate of inflation. This direct link between money and inflation was widely propagated by the protagonists of the doctrine when inflation was being squeezed by monetary means and it is plausible that in many countries the public may still regard an increase in the growth of money supply as a sign of worsening inflation. Therefore, an increase in the money supply necessary to accommodate a revival of real output might raise inflationary expectations and, hence, the rate of inflation. If it was appropriate to stress this link when the priority was to beat inflation, it is equally important now that it is played down by the authorities. Otherwise, the upswing in economic activity might at a very early stage be cut short by a rise in inflation. However a more flexible monetary approach is now evident, for example, in the United States where it has been argued that "... the economic significance of any particular statistic we label 'money' can change over time

- partly because the statistical definition of money is itself arbitrary and the components of the money supply have differing degrees of use as a medium of exchange and liquidity... We have to try to disentangle the temporary and cyclical from persistent trends in relationships among different measures of money and inflation and economic activity ... the economic environment in which we set policy - or policy itself - cannot be condensed into a simple, one-dimensional statement".¹⁶

Another underlying assumption of the doctrine is that the velocity of money remains essentially constant. However, when the economy goes through a prolonged recession accompanied by increasing uncertainty about the future and a general loss of confidence, the liquidity preference of the public may be strengthened and lead to a greater demand for money relative to national income. This would be reflected in a fall in the velocity of money. This is what happened in the United States in 1982. The velocity of M_2 remained nearly constant from 1961 to 1981, but in 1982 it fell by 6 per cent on a fourth quarter to fourth quarter basis. Clearly, there is a great deal of uncertainty concerning the development of velocity. "Strictly speaking, inflexible monetary growth rates are appropriate only if the trend in income velocity is constant or has purely random disturbances."¹⁷ During an economic recovery, on the other hand, it is typically the case that there is a general increase in confidence in the economy and, consequently, the liquidity preference of the public may fall and this would be reflected in an increase in the velocity of money. If a strict monetary policy rule were followed an excessive increase in the money supply would appear and, in the event that output is not sufficiently responsive to the rise in aggregate demand, an increase in the rate of inflation might follow.

In summary, one may conclude that the dominant view behind the recent practice of monetary policy is rather one-sided in emphasizing that inflation is a purely monetary phenomenon because real developments - falls in output and increases in unemployment - are also very much part of the process of bringing down the rate of inflation. Furthermore, the relationship between money and nominal income does not appear to be constant: it is broken by the variability of the velocity of money. Finally, changes in nominal income do not reflect only price changes: on the contrary, for the most part they reflect changes in real quantities.

There seems to be a growing awareness among policy makers of the pitfalls involved in applying a strict rule for money supply growth and of the problems encountered in adjusting monetary conditions to accommodate an economic recovery without inducing a new burst of inflation. However, caution would advise policy makers to carry out only piecemeal changes towards an easing of policy and not to attempt to push activity to an expansionary path by means of higher monetary growth. In other words, given such caution, one would expect in the near future only a slight relaxation of monetary policy without any rapid fall in real interest rates.

In the policy discussions in many countries, growing attention has been given to problems of supply, because the tools of demand management are no longer regarded as sufficient to cope with stabilization in a state of long-run stagflation. This greater emphasis on the need to raise the efficiency of supply has also tended to shift the

¹⁶ Statement by Paul A. Volcker, Chairman, Board of Governors of the Federal Reserve System, before the Joint Economic Committee of the U.S. Congress, 24 November 1982, *Federal Reserve Bulletin*, December 1982, p.747.

¹⁷ The Annual Report of the Council of Economic Advisers, transmitted to the Congress, February 1983, in the *Economic Report of the President*, United States Government Printing Office, Washington, 1983, p.23.

¹⁵ See in particular Robert J. Gordon, *op.cit.*

roles of monetary and fiscal policy. Previously it was thought that monetary policy should encourage and support investment, whereas fiscal policy should be sufficiently restrictive so as not to fuel inflation. According to the thinking behind recent economic policy, most clearly evident in the United States and the United Kingdom, fiscal policy is considered primarily as an instrument to increase the share of resources devoted to investment and to encourage savings, while price stabilization is left to monetary policy. These new aims for fiscal policy, however, may be difficult to achieve when general fiscal restraint is also being applied; many governments are actually seeking ways to reduce the growth in public spending and to increase government revenues. While supply side efficiency may be strengthened by various fiscal measures without stimulating aggregate demand (for example, by reducing taxes on profits), the supply side alone may not react in the direction aimed at. Since the general character of fiscal policy will remain cautious, and even deflationary in most countries in 1983, supply side policies will hardly prove sufficient to move economies to a sustained growth path.

It has been shown that there exists a fairly strong relationship between the growth of productivity and of output and that the direction of causation is basically from output growth to productivity.¹⁸ Since one of the principal factors behind productivity growth is investment in new productive capacity, to stimulate investment growth and, consequently, productivity growth, expansion in output should be encouraged. Improved profitability as such would, of course, provide a further inducement to invest. Hence, faster output supported by rising aggregate demand combined with higher profitability would in the medium-run provide for new and more efficient productive capacity.

1.1(v) An appraisal of the short-term outlook

According to the national forecasts made around the turn of the year the prospect for western Europe in 1983 is for only a weak recovery in output, with aggregate GDP growth of less than one per cent. This recovery would be based largely on public consumption, stock building and an improved foreign balance. Total fixed investment is not expected to increase although the decline of the last two years should be halted, at least in the larger economies. The prospects of recovery in the United States is somewhat stronger: the Administration's forecast in early February was for year-on-year growth of 1.4 per cent in GNP with an acceleration through the year.

Since these forecasts were made there has been an increasing flow of evidence that an upturn in activity is imminent, particularly in the United States. The United States Commerce Department has recently revised its estimate of first quarter growth in 1983 from 2 to 4 per cent to 'at least 4 per cent'.¹⁹ However, it is difficult to point to unambiguous evidence of an upturn, particularly in western Europe, although some survey results are pointing to an improvement in business confidence. Expectations of both official and private forecasters have been changing very quickly since the beginning of the year in response to scattered and sometimes contradictory information: this reflects the difficulty of forecasting turning points with any precision. In the United States evidence for an upturn is much stronger,

but indications of its probable strength are much less clear. Recovery in the United States is more likely than in Europe since fiscal and monetary policies were relaxed in the middle of 1982. In most of western Europe there has not been a deliberate move to change policies towards securing an upturn and the modest growth indicated in the forecasts for 1983 reflects the weakness of the endogenous forces for recovery.

Since these forecasts were made the price of oil has fallen and there is now the possibility of a still larger decline. The immediate effect of this will be to lower production costs and thus make productive activity potentially more profitable. In itself a 10 to 20 per cent fall in oil prices may not reduce total import prices by more than a few percentage points and hence the potential, lagged impact on output may not be much more than one half of one per cent a year. However, perhaps the most important consequence of the fall will be its general effect on expectations and on consumer and business confidence. Its effect in improving the general economic climate will derive in particular from its impact both on the actual rate of inflation and on inflationary expectations. Since 1973 the rise in oil prices has probably had a symbolic significance for expectations out of proportion to its actual impact on measured inflation rates. For this reason a fall in oil prices may have a large and favourable psychological influence which is impossible to quantify but which, through its effect on expectations, may reduce the general uncertainty surrounding the possibility of recovery. This might provide the decisive push towards recovery in western Europe and strengthen the upturn that already appears to be under way in the United States. However, in the near future there is bound to be uncertainty as to whether such a fall in oil prices is likely to be sustained.

Such a development would encourage a stronger growth of private consumption and induce a decisive turnaround in stockbuilding which has failed to appear so far.

However, the outlook for fixed investment is much less clear and this leaves the prospect of a sustained recovery in doubt. The potential for higher investment undoubtedly exists: technical progress is continuously opening up new opportunities and delays in structural adjustment in response to the sharp change in relative prices, which helped to instigate the present recession, have produced a backlog of desired investments. But the translation of this potential into actual investment is inhibited by high real rates of interest and by large margins of unused capacity. Any recovery must be strong enough to take up a considerable proportion of this slack and be accompanied by a fall in interest rates before there is a reasonable probability of fixed investment assuming its traditional role of taking over the support of economic recovery. If this fails to occur the upturn will again be cut short.

It was argued above that economic policies are unlikely to be changed in the near future: caution is likely to prevail in monetary policy, and in most of western Europe fiscal policy is currently set to be either neutral or restrictive. It is by no means clear that the endogenous forces for recovery will be strong enough to lead to a recovery in fixed investment. Therefore a change in policy will be needed. Such a change should not be borne by monetary policy because of the danger of a too rapid expansion of money and the consequent effects on inflation, although some easing is desirable in order to secure a fall in real interest rates. The main change should therefore be in fiscal policy, and the change should be open and deliberate and co-ordinated by the governments of the major European economies.

¹⁸ *Economic Survey of Europe in 1981*, section 1.vi.

¹⁹ *Wall Street Journal*, 2 March 1983.

The need for a change in policy to be open and deliberate is important. Governments have found it very difficult to cut their deficits in times of recession but these will anyway tend to fall automatically with a recovery in economic activity. This in turn may loosen the general fiscal restraint on governments and lead to the risk of revenue and expenditure policies which may not be appropriate for encouraging higher investment and a more efficient productive capacity. A lot of government expenditure in the present recession has

been devoted to protecting a number of traditional industries and thereby obstructing the longer-term requirements of structural adjustment. It is important therefore that careful attention be given to the composition of any fiscal stimulus.

The costs of another aborted recovery and of continuing stagnation are potentially so high that governments should use stimulatory fiscal policy to avoid such an outcome. At the present time the inflationary risk of such a policy is small.

1.2 OUTPUT AND DEMAND

The world economy in 1982 proved to be very much weaker than had been anticipated by governments and international organizations at the start of the year. Expectations were not in fact excessive: in western Europe the official national forecasts at the turn of the year were for a gradual but modest recovery of output growth and for thirteen countries these added up to an aggregate *GDP growth* of just under 1.5 per cent. Actual performance was even more modest with an average growth rate of 0.1 per cent (table 1.2.1). Of the European countries in table 1.2.1 only Norway and Switzerland had forecast an actual decline in GDP in 1982, but in the event there was a decline in seven of the thirteen. Perhaps the most important reversal of expectations was in the Federal Republic of Germany: a forecast of 1.5 per cent growth and an outcome of -1.2 per cent. The performance of the smaller countries has tended to be weaker than that of the four larger economies: average GDP growth in the former fell for the second year running and current official forecasts indicate only a very modest recovery in 1983. The forecast for the larger European economies is no better at less than one per cent: this is not only less than the year-old forecasts for 1982, but is also well below the actual rate in 1980, the first year of the current recession.

Growth expectations in 1982 were also confounded in North America. In Canada the official forecast had been for 2.2 per cent growth in GNP: instead there was a fall of some 5 per cent (in 1975 the growth rate but not the level of Canadian GNP had fallen). Hopes of an upturn in activity in the United States were also dashed - once again. Between the fourth quarters of 1981 and 1982 GNP appears to have dropped by nearly 2 per cent in

contrast with the Administration's forecast last February of a rise of some 3 per cent.

The prospect of recovery in the United States receded in the third quarter, when GNP growth dropped to 0.2 per cent from 0.5 per cent in the second, and disappeared with a fall in the last quarter (table 1.2.2). There was no sharp increase in consumers' expenditure following the mid-year tax cuts and after a small increase in stocks in the third quarter, destocking was resumed at a fairly high rate in the closing months of the year.

Quarterly national accounts data on a seasonally adjusted basis are available for only a few European countries (table 1.2.2): for these the development of output through the year shows a fairly general deterioration from the last quarter of 1981 and with fairly large falls in GNP in the third quarter. The small increases in output in the United Kingdom were due to crude oil production, exclusion of which gives a slight fall in output in the last quarter.

Industrial production, which is usually more volatile than GNP and in which its share varies from about 20 per cent in Denmark to around 43 per cent in the Federal Republic of Germany, also fell quite sharply in the third quarter of 1982 (table 1.2.3); indeed, it fell in every western country without exception. Apart from a brief respite in the last quarter of 1981 and the first of 1982, industrial production in western Europe (13 countries) has been falling continuously since the third quarter of 1980. In the third quarter of 1982 the average level of production in western Europe was over 7 per cent below its previous peak in the first quarter of 1980. For individual countries the fall in output between the previous peak and the latest trough ranges from some 3

TABLE 1.2.1

Annual changes in real GDP, 1979-1983^a
(Percentage change over previous year)

	1979	1980	1981	1982	1983
France	3.3	1.1	0.2	1.8	2.0
Germany, Federal Republic of ^b	4.0	1.8	-0.2	-1.2	-0.5
Italy	4.9	3.9	-0.2	-0.3	0.0
United Kingdom	1.6	-1.9	-2.0	1.3	0.8
Total 4 countries	3.5	1.3	-0.4	0.3	0.6
Austria	4.8	3.2	0.0	0.9	0.4
Belgium	2.4	2.8	-1.7	-0.4	1.4
Denmark	3.2	0.5	-0.2	1.5	2.0
Finland	7.6	6.0	1.4	0.9	1.5
Ireland	2.5	2.7	1.1	0.5	1.0
Netherlands	2.1	0.9	-1.2	-1.0	0.0
Norway	5.1	4.3	0.3	0.0	0.4
Sweden	4.3	1.9	-0.6	-0.7	1.4
Switzerland	2.5	4.6	1.9	-1.7	-0.8
Total 9 countries	3.5	2.6	-0.2	-0.3	0.7
Total 13 countries	3.5	1.6	-0.4	0.1	0.6
United States ^b	2.8	-0.4	1.9	-1.8	2.9
Canada ^b	2.9	0.5	3.1	-5.0	..

Sources: National statistics. For 1983 forecasts see Appendix to this section.

^a At market prices.

^b GNP

TABLE 1.2.2

Quarterly changes in GNP, 1981-1982
(Percentage change over previous quarter, seasonally adjusted)

	1981		1982			
	Q3	Q4	Q1	Q2	Q3	Q4
Germany, Federal Republic of	0.7	0.2	-0.5	-0.3	-1.1	-0.1
Italy	-1.7	2.6	1.2	-1.5	-3.0	..
Sweden	-0.2	0.1	-1.7	0.7	-1.3	..
United Kingdom	-1.4	1.7	-0.3	0.3	0.4	0.2
United States	0.5	-1.3	-1.3	0.5	0.2	-0.6
Canada	-1.1	-0.9	-2.2	-1.9	-1.0	..

Source: OECD, *Main Economic Indicators*, Paris: February 1983, and, for the United Kingdom, CSO Press Release, Federal Republic of Germany, *Statistische Beihfte zu den Monatsberichten der Deutschen Bundesbank, Reihe 4*, February 1983, No.2.

TABLE 1.2.3

Annual and quarterly changes in industrial production
(Percentage change over previous year or quarter)

	1980	1981	1982 ^a	1982 ^a			
				Q1	Q2	Q3	Q4
Austria	2.8	-1.1	-0.9	1.2	-0.5	-2.5	-2.0
Belgium	-1.3	-2.7		-1.8	2.7	-3.5	..
Finland	7.8	3.2	-1.3	-0.8	2.8	-1.9	..
France	-	-1.4		-1.3	1.4	-2.1	..
Germany, Federal Republic of	-	-1.3	-2.5*	0.9	-0.9	-3.7	-1.9
Ireland ^b	-1.0	1.9		0.5	-0.3	-1.5	..
Italy	5.6	-2.3	-2.6	2.2	-3.1	-4.7	-0.7
Netherlands	-	-1.8	-3.5	-0.5	-3.1	-2.8	-
Norway	5.6	-0.2	-1.0	2.5	-2.0	-4.2	1.8
Sweden ^b	0.4	-3.5	-1.0	-0.5	0.5	-1.6	1.3
Switzerland	5.3	-0.6		-2.5	-0.5	-3.4	..
United Kingdom	-6.6	-3.9	0.6	-0.6	0.4	-0.2	
Western Europe ^c	0.3	-1.8		0.0	-0.4	-2.8	..
Canada	-1.7	1.7	-10.8	-2.9	-2.7	-2.8	-3.8
United States	-3.6	2.7	-8.2	-3.1	-1.7	-0.9	-2.2
North America ^c	-3.4	2.6	-8.4	-3.1	-1.8	-1.1	-2.3

Sources: National statistics and OECD, *Main Economic Indicators*, Paris.

^a Seasonally adjusted.

^b Mining and manufacturing.

^c Weighted by 1975 industrial output in US dollars.

^d Preliminary estimates.

per cent in Austria to more than 13 per cent in Italy and the United Kingdom. For 1982 as a whole data for ten to eleven months suggest a fall in west European industrial output of just under 1 1/2 per cent: this follows a decline of nearly 2 per cent in 1981 and marginal growth in 1980. In North America the fall in output was much larger than in Europe (8.5 per cent).

Manufacturing output has generally fallen more than industrial output, the difference between the two being particularly marked in Norway and the United Kingdom (due to crude oil production) and, in 1982, in Finland. For western Europe as a whole the fall in 1982 (on data for 9 to 11 months) was probably close to 2 per cent, after a drop of 2.5 per cent in 1981 and stagnation in 1980. Again, the decline was very much larger (8.5-9.0 per cent) in North America.

The absence of recovery in western Europe in 1982 means that the present recession is by far the longest since before the second world war. The recession following the first oil price shock ran from the second quarter of 1974 to the second of 1975 and west European

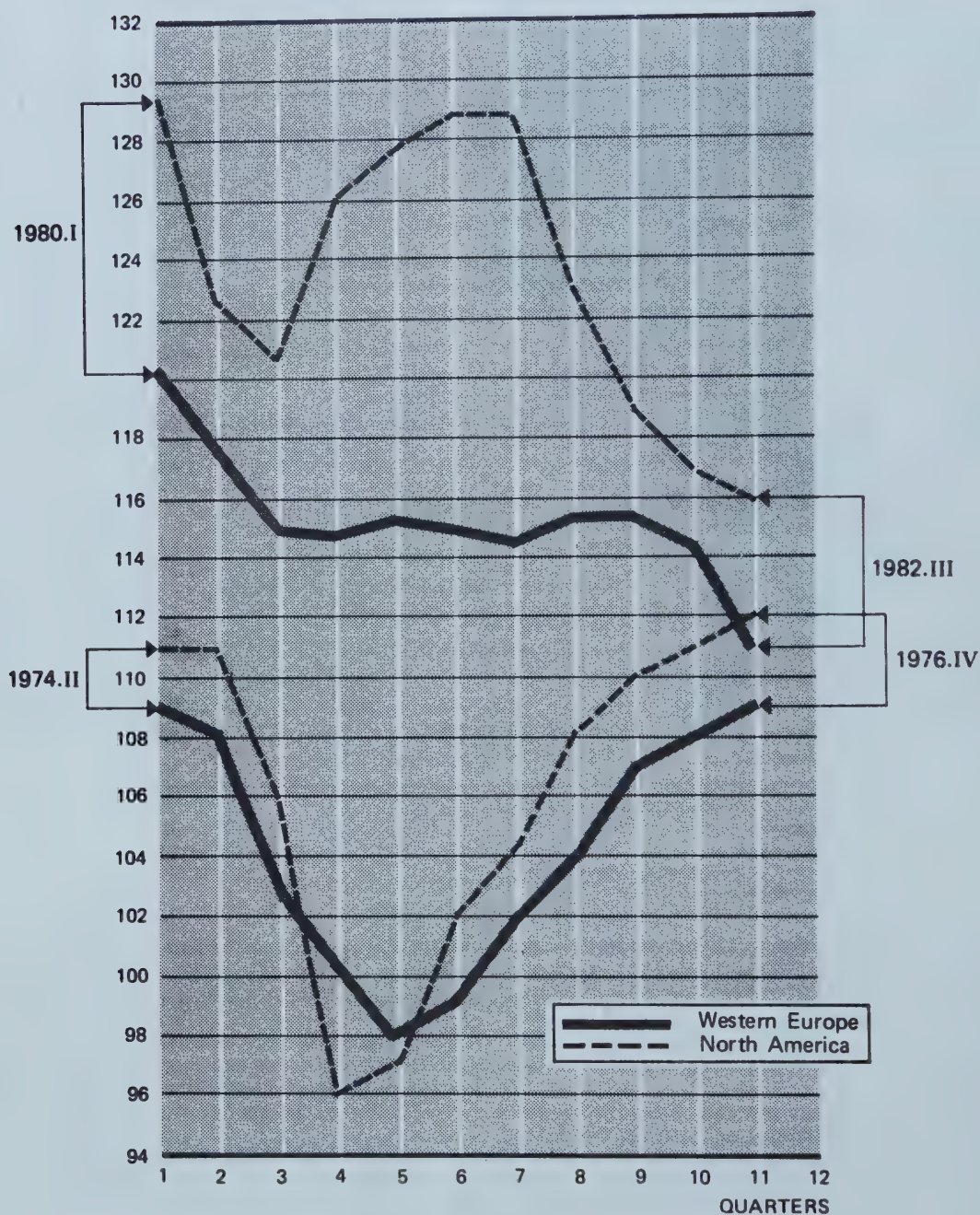
industrial production fell some 10 per cent between its peak in the second quarter of 1974 and the second quarter of 1975 (chart 1.2.1). The first oil shock was sharp but short: recovery started in the third quarter of 1975 and by the end of 1976 industrial output had regained its 1973 peak. In strong contrast the present recession has persisted (so far) for some 10 quarters as opposed to 4 in 1974/75: by the last quarter of 1980 industrial output had fallen some 4.7 per cent below its peak in the first quarter, but instead of repeating the quick recovery of 1975/76 it then remained more or less stagnant for five quarters before resuming its fall in the second and third quarters of 1982.

In North America the shock of the first oil price rise was even sharper and shorter than in Europe: industrial production fell nearly 13 1/2 per cent from a peak in the third quarter of 1974 to the first quarter of 1975. Recovery began in the next quarter and production regained its pre-shock level, as in Europe, by the end of 1976. After the second oil shock it appeared for a while that output in North America would follow a similar path to that after

CHART 1.2.1.

INDUSTRIAL PRODUCTION IN WESTERN EUROPE AND NORTH AMERICA AFTER THE TWO OIL SHOCKS ^{a/}

(Index numbers, 1975=100)

Source: OECD, *Main Economic Indicators*, Paris.^{a/} National indices weighted by 1975 shares in total regional output in dollars.

the first: between the first and third quarters of 1980 industrial production fell by nearly 7 per cent but quickly recovered to its pre-shock level by the second quarter of 1981. This recovery however was aborted by the shift in United States monetary policy in 1979 towards rigid adherence to money supply targets: after levelling out in the third quarter of 1981 production fell in each succeeding quarter to the end of 1982. Between the third quarters of 1981 and 1982 industrial production fell by nearly 10 per cent.

It is only in a very narrow statistical sense, i.e. in the amplitude of the fluctuation in output, that the recession following the second oil shock can now be said to be less severe than the first. The long, drawn-out nature of the present recession has not only had cumulative effects on capacity utilization, which is now much lower than in 1974-75 (see below, this section), and on unemployment which is much higher (see section 1.3 below), but the continual disappointment of entrepreneurial and corporate expectations of a recovery in output carries the risk of a sharp reduction of investment and a further fall in activity (see section 1.1 and last year's *Survey*, p.77).

The hoped-for recovery of output in 1982 had been based largely on a forecast upturn in the stock cycle: for western Europe this would have provided about half of the increase in output. The rise in stocks would have been supported mainly by increases in private consumption (which in 1981 had barely risen at all in the major European economies and had fallen in the smaller ones); public consumption was also forecast to rise, but by less than in 1981 and by less than private consumption. Exports of goods and services were forecast to recover quite strongly (from 2.7 per cent growth in 1981, for the thirteen west European countries taken together, to nearly 4.5 per cent) but, as imports would also recover from their absolute decline in 1981, the net effect on west European output would be smaller than in 1981 although still positive. The principal negative influence on growth was domestic fixed capital investment although its rate of decline was expected to be much less than in 1981.

As was argued in last year's *Survey*, this did not add up to a very robust forecast. All the potential factors of

recovery were fairly fragile and the overall forecast was vulnerable to relatively small shortfalls in any of its components. As it turned out *private consumption* was much weaker than forecast: it fell by more than 2 per cent in the Federal Republic of Germany and although rising real incomes and the abolition of remaining hire-purchase controls in June led to a rise in the United Kingdom (it was not very large). In France the growth of private consumption was maintained at just over 2 per cent but for the four major European economies together it was lower than in 1981. For the smaller countries as a group private consumption fell for the second year running, with particularly sharp declines in Ireland, the Netherlands and Belgium. For western Europe as a whole there was no growth in private consumption (table 1.2.4). This weak performance is perhaps a little surprising to those who saw a fall in the rate of inflation as a source of spontaneous recovery via real balance effects on consumer spending. But such a view would appear to underestimate the effect on consumer confidence of other factors such as accelerating rates of unemployment in 1982, the persistence of very high nominal rates of interest, and the more general uncertainty deriving from the well-publicised threat of financial crisis which reigned throughout most of the year. It is not inconceivable that the greater caution (and higher savings ratios) of consumers, like that of businessmen, is also partly due to repeatedly mistaken forecasts of economic recovery.

Public consumption (table 1.2.5) increased by less than in 1981 although in line with the aggregate of government forecasts at the beginning of the year. The much weaker rate of both public and private consumption in the present recession compared with that in 1974-75 reflects the very different policy stance adopted in most countries after 1979. In 1974 and 1975 public consumption in western Europe increased by 3 and over 4 per cent respectively whereas in the last two years the average rise has been less than 2 per cent. However governments have been finding it increasingly difficult to cut expenditure further: in the short-term such attempts tend to be counter-productive in the context of recession,

TABLE 1.2.4

Annual changes in real private consumption, 1979-1983
(Percentage change over previous year)

	1979	1980	1981	1982	1983
France	3.5	1.7	2.2	2.1	1.6
Germany, Federal Republic of	3.1	1.5	-1.2	-2.2	-0.5
Italy	5.3	4.3	0.2	-0.5	0.5
United Kingdom	4.9	-0.1	0.4	1.1	-0.7
Total 4 countries	3.9	1.7	0.4	0.0	0.3
Austria	4.4	1.4	0.7	1.5	0.5
Belgium	4.6	1.3	-1.4	-1.5	-1.0
Denmark	3.0	-3.8	-1.1	2.0	1.6
Finland	5.6	2.9	1.6	3.2	0.5
Ireland	2.7	0.2	-0.4	-6.5	1.0
Netherlands	2.9	-0.4	-2.6	-2.0	-3.0
Norway	3.2	2.3	1.3	1.9	1.4
Sweden	2.7	0.2	-0.6	0.7	-2.4
Switzerland	1.3	2.6	0.5	-0.2	-0.2
Total 9 countries	3.2	0.7	-0.7	-0.1	-0.8
Total 13 countries	3.8	1.5	0.1	0.0	0.0
United States	2.7	0.3	1.8	1.0	..
Canada	2.0	1.1	1.9	-2.3	..

Sources: As for table 1.2.1.

TABLE 1.2.5

Annual changes in real public consumption, 1979-1983
(Percentage change over previous year)

	1979	1980	1981	1982	1983
France	1.8	1.3	2.4	2.9	2.1
Germany, Federal Republic of	3.5	2.8	2.0	0.1	0.5
Italy	1.7	2.1	1.8	1.5	1.0
United Kingdom	1.8	1.9	0.0	1.2	0.6
Total 4 countries	2.5	2.2	1.6	1.2	0.9
Austria	3.1	1.8	2.0	1.9	2.0
Belgium	2.6	1.5	0.6	-1.9	-1.5
Denmark	5.8	5.1	3.0	3.7	3.1
Finland	3.7	4.4	3.5	5.0	3.5
Ireland	7.0	6.1	-0.1	0.3	-2.5
Netherlands	2.7	0.9	1.3	-0.5	1.0
Norway	3.5	4.7	5.2	0.9	2.2
Sweden	4.8	2.3	2.1	1.3	1.3
Switzerland	1.1	0.9	0.5	2.1	2.9
Total 9 countries	3.7	2.6	2.0	1.2	1.4
Total 13 countries	2.8	2.3	1.7	1.2	1.1
United States ^a	1.3	2.2	0.9	1.4	..
Canada	0.9	-1.0	0.9	2.1	..

Sources: As for table 1.2.1.

^a Including public investment.

while more fundamental attempts to cut the long-run growth of expenditure are coming up against demographic pressures (the increase in the number of old people for example) and difficult questions of political choice. For 1983 the growth of public consumption, on the basis of recent official forecasts, should be slightly less than in 1982 for western Europe as a whole, but with a slight acceleration in the smaller economies.

The lower than expected growth of consumption in 1982 was one of the principal factors behind the weaker impact of the turn in the *stock cycle*. The destocking which had amplified, often considerably, the fall in domestic demand in 1981 was reversed in the first and/or second quarters of 1982, but by the middle of the year, when it became increasingly clear that recovery would again be postponed, many enterprises found themselves with excessive stocks. Consequently there was a fairly sharp fall in stocks in the third quarter which may have continued into the fourth. Enterprises were in any event cautious towards stock accumulation given the still high levels of interest rates and their general need to improve liquidity and balance sheets. However stockbuilding did support domestic demand for the year as a whole in most of western Europe, although not in the United States (table 1.2.6).

Another factor which weakened confidence and encouraged the fall in stocks in the second half of 1982 was the rapid deterioration in *export prospects*, particularly for exports to developing countries where the effect of their growing debt problems on world trade was underestimated in the forecasts made at the turn of the year.²⁰ For western Europe as a whole the national forecasts for 1982 implied a volume increase in exports of goods and services of nearly 4 1/2 per cent, but the actual increase was less than half of that. Import growth was also much less than forecast, but not by so much as

exports. Consequently the *trade balance*, on average, had a negative impact on output rather than the small positive contribution that had been forecast. However individual countries varied quite a lot in this respect, as can be seen in table 1.2.7. Current forecasts imply a recovery in west European exports of goods and services to 2 1/2 per cent growth in 1983 with a stronger contribution to output growth in the smaller economies.

The evaporation of prospects for a sustained recovery in output growth and the deterioration of business confidence, particularly from mid-year, were among the factors leading to a much larger fall than had been forecast in *gross domestic capital formation* (table 1.2.8): for western Europe as a whole the decline was about 3 per cent (compared with an expected fall of 1 per cent). The large fall in 1981 had also been considerably larger than forecast. Taking 1981 and 1982 together the fall in investment is nearly as large as in 1974-75: for the smaller European economies it is much larger. Some recovery in total fixed investment is expected in 1983, with most of the rise coming from housing which is likely to be more sensitive to the recent fall in interest rates. However the recovery is weak by historical standards and in Italy and a number of the smaller economies the decline in total investment is forecast to continue (table 1.2.8).

Given the length of the present recession, the uncertainty concerning the timing and pace of a recovery in output, high interest rates and the low profitability of business enterprises, it is perhaps surprising that fixed investment has not fallen further than it has. Indeed its share of gross domestic product (in current prices) in the European Community rose between 1978 and 1981 from 20.3 to 21.5 per cent: this compares with an average share in the 1960s of 22.1 per cent and in the 1970s of 21.5 per cent.²¹

²⁰ Trade and payments developments for western Europe are dealt with in some detail in Chapter Four, section 4.3 (below).

²¹ Commission of the European Communities, *European Economy*, No. 14 December 1982, p.199, table 14.

TABLE 1.2.6

Annual changes in real domestic demand, excluding and including stockbuilding, 1979–1983
(Percentage change over previous year)

	1979		1980		1981		1982		1983	
	excl. stocks	incl. stocks	excl. stocks	incl. stock	excl. stocks	incl. stocks	excl. stocks	incl. stocks	excl. stocks	incl. stocks
France	3.2	4.1	1.8	2.1	1.3	-0.8	1.8	2.4	1.5	1.6
Germany, Federal Republic of ^a	4.1	5.4	2.1	1.4	-1.2	-2.4	-2.6	-2.0	0.0	0.0
Italy	4.8	5.7	4.9	7.0	0.4	-2.7	-0.8	-0.6	0.0	-0.4
United Kingdom	3.5	4.1	-0.2	-3.0	-1.2	-1.5	1.4	2.3	0.0	0.7
Total 4 countries	3.8	4.8	2.0	1.6	-0.2	-1.8	-0.3	0.3	0.5	0.6
Austria	3.5	5.5	2.0	3.0	0.2	-2.6	0.2	0.7	0.8	0.7
Belgium	2.8	3.3	2.1	1.5	-4.1	-4.0	-2.0	-2.1	-0.6	-0.5
Denmark	2.6	2.7	-3.6	-3.9	-2.8	-2.8	1.5	1.8	1.7	2.0
Finland	4.8	10.2	5.0	6.1	1.8	-3.2	2.4	2.6	0.7	0.9
Ireland	6.1	7.3	-0.7	-3.2	1.1	1.2	-5.5	-4.5	-1.2	-1.9
Netherlands	1.9	1.6	-0.6	-0.1	-3.5	-5.4	-2.2	-1.3	-1.8	-1.1
Norway	0.8	3.7	1.9	4.9	5.9	1.0	-1.3	3.0	2.0	2.3
Sweden	3.7	5.8	1.4	2.8	-0.7	-2.5	-0.1	-0.5	-1.4	-0.8
Switzerland	2.2	4.4	4.3	5.6	1.1	-0.7	-0.7	-0.7	-0.8	-0.7
Total 9 countries	2.8	4.2	1.3	1.9	-1.0	-2.8	-0.8	-0.2	-0.4	-0.1
Total 13 countries	3.6	4.6	1.8	1.7	-0.4	-2.0	-0.4	0.2	0.2	0.3
United States	2.6	1.9	-0.5	-1.3	1.6	2.6	0.1	-1.0	..	..
Canada	2.8	3.9	1.3	-0.6	2.6	3.7	-4.1	-7.1	..	..

Sources: As for table 1.2.1.

TABLE 1.2.7

Annual changes in the volume of exports and imports of goods and services, 1979–1983
(Percentage change over previous year)

	1979		1980		1981		1982		1983	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
France	7.4	11.4	2.9	7.3	5.1	1.0	-0.4	2.0	5.3	3.8
Germany, Federal Republic of ^a	4.9	10.2	5.8	4.4	8.5	1.2	2.7	0.5	0.0	0.0
Italy	9.1	13.8	-4.4	8.3	6.0	-5.4	3.0	2.0	2.5	1.0
United Kingdom	2.6	11.2	0.4	-3.3	-2.2	-0.3	0.4	3.8	3.1	2.6
Total 4 countries	5.7	11.2	2.4	5.1	5.1	-0.1	1.5	1.8	2.3	1.7
Austria	8.9	10.8	8.1	7.3	7.8	1.0	-0.7	-1.3	-2.2	-1.6
Belgium	8.0	9.5	5.1	2.7	2.5	-1.4	2.9	0.3	4.1	1.3
Denmark	8.0	6.2	7.1	-6.9	5.3	-2.1	1.3	2.1	1.5	1.3
Finland	9.2	16.1	9.0	11.8	4.2	-3.8	-3.7	0.9	1.0	-1.0
Ireland	6.9	14.7	6.4	-4.2	1.6	1.7	5.5	-3.5	9.3	4.0
Netherlands	7.3	6.1	1.7	-0.4	0.9	-7.4	4.0	4.0	5.0	3.5
Norway	2.6	-0.7	2.1	3.3	0.2	1.9	-1.7	5.6	0.4	4.8
Sweden	7.2	12.7	-1.6	1.1	1.5	-4.2	3.2	4.3	6.2	-0.1
Switzerland	2.5	6.9	5.1	7.2	4.7	-1.3	-4.2	-1.9	-2.0	-1.8
Total 9 countries	6.7	8.2	3.8	2.3	2.8	-2.7	1.2	1.5	2.8	1.2
Total 13 countries	6.0	10.1	2.9	3.3	4.3	-1.0	1.4	1.7	2.5	1.5
United States ^a	15.4	6.1	8.9	-0.4	-0.5	7.2	-6.9	0.7	..	..
Canada ^a	2.9	7.2	1.8	-2.0	1.6	2.6	0.6	-8.5	..	..

Sources: As for table 1.2.1.

^a Data include factor income from and to abroad.

One explanation for this relative strength of investment is suggested in chart 1.2.2 where it can be seen that investment in machinery and equipment in the four major economies of western Europe was the main support of total fixed capital formation.²² Investment in machinery in these four economies rose by just over one-third between 1975 and 1980 while real GDP increased

by only 17 per cent. A similar pattern occurred in the United States where investment in machinery rose by 45 per cent over the same period and real GDP by 20 per cent. However in the smaller European economies investment rose much less than output (5 and 14 per cent respectively).²³

²² The breakdown of total gross domestic fixed capital formation into the three asset categories is available in several countries only after a lag of a year or two. The data for 1981 and 1982 in chart 1.2.2 are therefore partly estimated by the Secretariat.

²³ Austria and Switzerland are exceptions to this small economy pattern: between 1975 and 1980 GDP rose 19 and 9 per cent respectively while investment in machinery increased 29 and 21 per cent.

TABLE 1.2.8

Annual changes in real gross domestic fixed capital formation, 1979–1983
(Percentage change over previous year)

	1979	1980	1981	1982	1983
France	3.2	2.4	-1.8	0.1	0.8
Germany, Federal Republic of	7.3	3.2	-3.8	-6.2	1.0
Italy	5.8	9.4	-0.2	-4.0	-2.9
United Kingdom	0.9	-2.8	-8.2	2.8	1.9
Total 4 countries	4.7	2.8	-3.4	-2.5	0.5
Austria	1.7	3.4	-2.0	-4.0	0.6
Belgium	-2.4	5.3	-16.2	-4.1	1.6
Denmark	-1.9	-13.8	-16.3	-4.4	-0.8
Finland	3.8	10.5	1.1	-1.6	-1.0
Ireland	13.7	-6.9	5.5	-7.5	-5.0
Netherlands	-1.6	-2.5	-10.8	-4.5	-0.4
Norway	-5.0	-0.8	15.1	-8.2	2.9
Sweden	5.1	3.4	-4.6	-4.2	-2.8
Switzerland	5.1	9.9	3.0	-3.1	-3.7
Total 9 countries	0.8	1.8	-4.4	-4.4	-0.8
Total 13 countries	3.6	2.5	-3.7	-3.0	0.2
United States ^a	3.8	-6.9	1.7	-5.3	..
Canada	6.5	3.9	5.7	-13.4	..

Sources: As for table 1.2.1.

^a Excluding public investment.

This pattern of investment in the major countries would appear to support suggestions from business surveys that much of current investment is being devoted to rationalization and labour-saving rather than to the expansion of capacity.²⁴ Part of the increase after 1975 may also represent a carry-over from the early 1970s of replacement investment which cannot of course be delayed indefinitely if enterprises are to remain in business. The motives for rationalization became particularly strong in the first half of the 1970s. Not only did the oil price shock create a potential demand for replacing (or re-furbishing) plant which had become less or un-profitable but there was also a sharp increase in the real product wage²⁵ relative to productivity growth in 1970–71 and in 1974–75.²⁶ Although there was considerable concern at low and falling profits at this time, real long-term interest rates fell sharply between 1974 and 1978 and in many countries were largely negative (table 1.2.9). Thus in the mid-1970s, there was a pronounced shift in relative factor prices toward capital.²⁷ This situation has now altered following the fundamental changes that occurred in macro-economic policies after the second oil shock in 1979: these have contributed to the 'double recession' (see section 1.1 above) in which each hesitant start of recovery in real output has been choked off by higher interest rates. Attempts to avoid the latter by cutting nominal public sector deficits have tended to reduce output still further. However inflation rates have fallen sharply and real interest rates are not only positive again but are also considerably higher than at any time since the 1960s. With declining corporate income and considerable uncertainty as to future prospects of output growth, many enterprises in the

developed market economies now have debt problems similar to those of developing countries.

Thus the general economic environment is now very unfavourable for fixed investment: the forecasts for western Europe suggest a small increase for the large economies but a further decline in the smaller ones (table 1.2.8). Falling interest rates may provide some stimulus to private investment in new dwellings, but industrial investment will be discouraged by low output growth, depressed profitability and large margins of unused capacity.

Rates of capacity utilization in manufacturing industry are now extremely low (table 1.2.10). In western Europe about one-quarter of total capacity is now standing idle while in North America the proportion is nearer one-third. There was a marked deterioration in 1982 in both regions, but particularly in North America, and capacity utilization rates are now well below the levels reached in 1975, the worst year of the previous recession. Indeed in a number of European countries the utilization rate in the last 'boom' year, 1979, failed to surpass the previous recession rate in 1975.

The estimates of capacity utilization in table 1.2.10 are Secretariat estimates based on a production function approach which is subject to a number of well-known limitations.²⁸ However this type of estimation procedure has also been criticized in recent years for failing to take into account the accelerated scrapping of parts of the capital stock due to their loss of profitability following the change in relative oil prices in the 1970s. This criticism is potentially important for it suggests that the western economies have much less spare capacity than is suggested by the figures in table 1.2.10 and that any

²⁴ See below on this point.

²⁵ Change in employees' compensation divided by the implicit price of value added.

²⁶ See Assar Lindbeck, "The Recent Slowdown of Productivity Growth", *The Economic Journal*, March 1983.

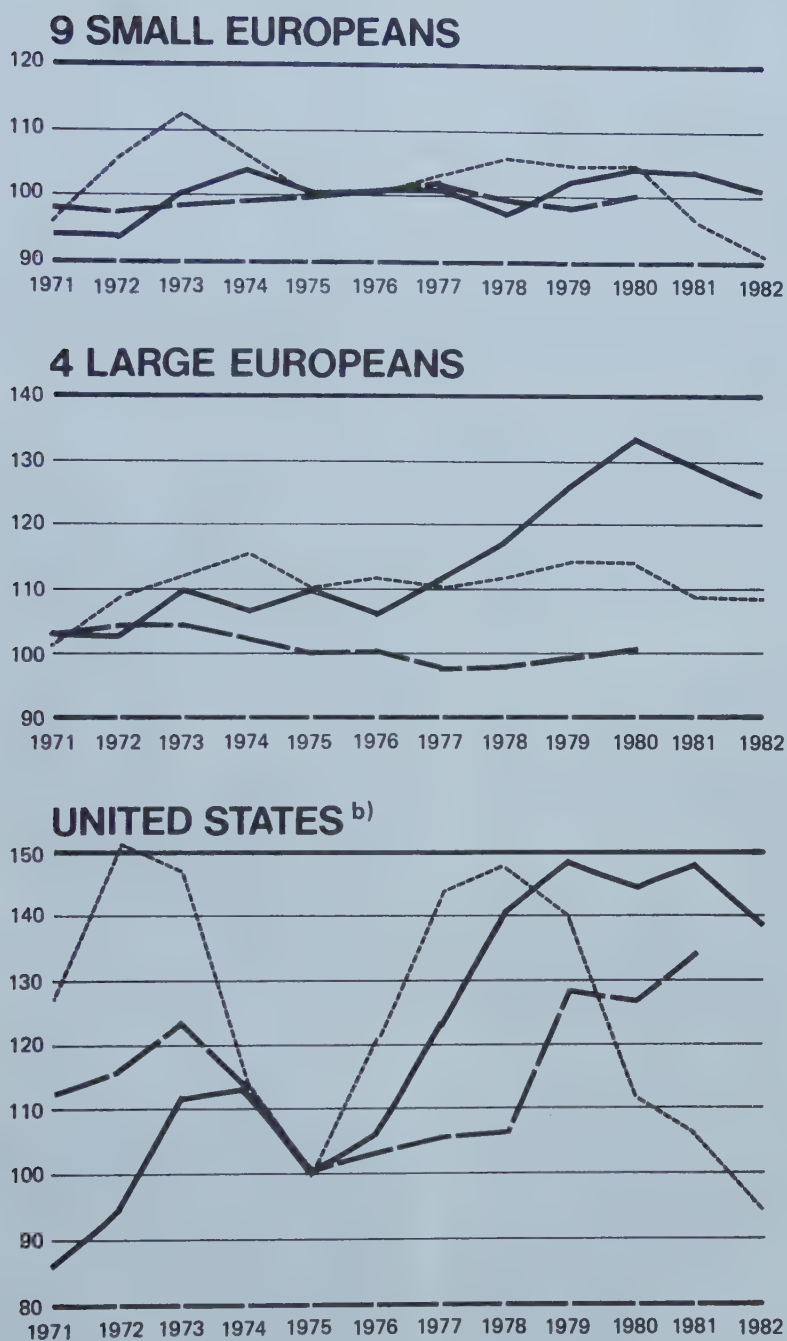
²⁷ This is one factor behind the sluggish growth of employment since 1973. Another factor sustaining investment in machinery is the widespread subsidization of restructuring and other investment programmes in traditional industries such as textiles, steel, shipbuilding, etc.

²⁸ On the methodology used here see *Economic Survey of Europe in 1981*, pp. 64–65. The estimates are based on a three-factor Cobb-Douglas function for value added in manufacturing. Energy has been specifically taken into account, along with labour and capital, as a determinant of potential output. Owing to limitations of data availability and in order to maintain comparability between the various countries, labour input is measured in terms of persons employed and not of total hours worked. The estimates given in last year's *Survey* have been revised and updated and Canada has been added to table 1.2.10.

CHART 1.2.2.

GROSS DOMESTIC FIXED CAPITAL FORMATION BY TYPE
OF ASSET, IN WESTERN EUROPE AND THE UNITED STATES,
1971–1982^{a)}

(1975=100)



Source: As for table 1.2.1.

----- Dwelling
 ————— Other construction
 - · - · - Machinery and equipment

^{a)} European country groups as in table 1.2.1. Secretariat estimates based on partial data for 1981 and 1982

^{b)} Private sector only

TABLE 1.2.9

Real long-term interest rates, 1960–1982^a
(Per cent per annum)

	1960– 1966	1967– 1973	1974– 1978	1979	1980	1981	1982
France	1.7	2.3	0.1	0.4	2.1	4.5	4.1
Germany, Fed. Rep. of	2.9	2.8	2.7	3.6	3.5	5.9	4.0
Italy	0.3	0.7	–4.6	–2.2	–4.2	1.4	2.3
United Kingdom	2.3	2.3	–2.1	–3.3	–5.9	0.6	5.6
Belgium	2.6	2.3	0.1	5.2	7.6	8.0	5.0
Denmark	1.3	2.3	4.3	9.0	9.9	8.9	9.4
Finland	..	..	–3.1	1.8	0.9	–0.9	2.3
Ireland	..	..	–0.2	2.4	1.2	–0.4	0.6
Netherlands	–0.4	0.2	–0.3	2.8	2.5	5.6	3.5
Norway	..	1.0	–0.9	2.2	–4.2	–2.2	2.2
Sweden	1.3	1.5	–1.7	2.8	–3.4	3.6	..
Switzerland	–1.2	–0.8	1.0	1.4	2.0	–1.3	–0.8
United States	2.2	1.1	–0.1	0.3	2.0	4.1	7.0
Canada	2.9	2.3	–0.7	–0.4	1.6	4.6	3.8

Sources: OECD, *Historical Statistics 1960–1980*, Paris, 1982; for 1981 and 1982 nominal rates from OECD, *Main Economic Indicators*, Paris, (monthly) and GDP deflators from national statistical sources.

^a Yields on long-term (over 5 years) Government bonds less the change in the implicit price deflator of GDP between the previous and current years. Annual nominal interest rates are the geometric averages of the monthly data.

TABLE 1.2.10

Capacity utilization rates in manufacturing industry, 1973–1982^a
(Percentages)

	'Boom' years		Recession years			
	1973	1979	1975	1980	1981	1982
Austria	91.8	85.7	82.9	86.4	81.6	78.6
Finland	98.0	90.3	92.9	94.3	91.3	86.0
France	94.2	81.2	85.1	76.5	73.4	69.0
Germany, Federal Republic of	98.2	92.7	88.2	90.2	85.0	80.2
Italy	94.2	81.5	81.0	81.8	78.0	73.6
Norway	93.0	81.7	87.9	80.8	78.9	74.8
Sweden	94.4	85.8	94.4	84.4	80.4	77.6
United Kingdom	96.2	81.5	87.3	73.6	68.8	67.2
Western Europe ^b	96.0	93.9	86.5	83.0	78.7	74.7
Canada	94.0	83.1	85.5	77.2	76.3	66.8
United States	94.3	85.0	78.0	77.0	75.7	66.4

Sources: Secretariat estimates. For method of estimation see Economic Commission for Europe, *Economic Survey of Europe in 1981*, United Nations, New York 1982, pp. 64–65.

^a Actual output as a percentage of potential output.

^b Weighted average of 8 countries. Weights are shares in the aggregate dollar value of manufacturing output in 1975.

attempt to stimulate output would run into inflationary bottlenecks much sooner than expected. How valid is this criticism?

The argument that actual rates of scrapping since 1973 are likely to have been much higher than the conventional rates of depreciation and retirement used in the construction of capital stock series and that therefore such series overestimate the economically useful capital stock can be criticised on a number of grounds. First it ignores the fact that even if a rise in relative energy prices shortens the life of capital-intensive goods at the same time it will lengthen the useful life of labour-intensive goods. The net effect of these shifts is an empirical question to which the answer is presently unknown. Secondly, although a change in relative input prices may reduce profitability it may not entirely eliminate it. Thus although the life of the affected asset is reduced it is not scrapped immediately and until it is replaced it is still

capable of producing output.²⁹ Thirdly, the argument overlooks the possibility of complementary investment designed to improve the energy efficiency of existing equipment. House-owners have not pulled their houses down as a result of higher energy prices but have improved insulation to reduce energy costs. Probably large gains in efficiency can be found and secured in most business enterprises at fairly low capital cost. Finally a rise in the relative price of an input does not necessarily mean that economies will necessarily be sought in the use of that input (by scrapping plant that uses the input intensively, for example): enterprises are basically concerned with minimising their total costs and in practice it may be easier to reduce the costs of other inputs rather than the one for which the relative price has increased. Thus although the argument in favour of an

²⁹ These points are also discussed below in section 1.5.

accelerated rate of scrapping of the capital stock is plausible, there is also a number of counter-arguments. Ultimately the question is an empirical one and at present it has not been satisfactorily answered one way or the other.

In the absence of a more rigorous empirical investigation, it may be instructive to compare the estimates of capacity utilization based on the production function approach with those provided by business surveys. The rationale of this is as follows: since surveys ask businessmen directly what their rate of capacity use is, it would seem reasonable to assume that they would exclude from their calculation any capacity that had become unprofitable (and would not be used again) as well as capacity that had already been scrapped. Given this 'rationality' assumption, business survey estimates ought therefore to be fairly close to the rate of utilization of the economically useful capital stock. If the argument that the production function approach is based on an over-estimation of the useful capital stock is correct, then it could be expected that after 1973 there will be found an increasing divergence between the two sets of estimates, with the business survey data showing higher rates of capacity utilization than those derived from the production function.

Table 1.2.11 presents such a comparison between the Secretariat's estimates of capacity utilization and those of a number of national business surveys. Unfortunately, there are only six countries for which this comparison can be made. Business surveys conducted in Finland, Norway and Sweden report only the percentage of firms operating at full capacity. It should be noted that the surveys for France, the Federal Republic of Germany, Italy and the United Kingdom exclude the food, beverages, and tobacco industries, and that the series for the United Kingdom is actually an estimate prepared by the Commission of the European Communities based on information relating to the percentage of firms working at below full capacity.

The comparison in table 1.2.11 reveals striking similarities but also paradoxically large variations in the differences between the two series. The agreement between the two is highest for Austria, the United States and the Federal Republic of Germany. In contrast there are sizeable differences in the changes over time in the two series in France, Italy and the United Kingdom. The general feature is for a much faster fall in the rate of capacity utilization between 1973 and 1979 in the production function series than is shown by the business surveys. Between 1979 and 1981 however, the changes (in percentage points) were fairly similar for both series in all countries except France. This may point to a downward bias in the production function estimates for France.

As capacity utilization rates were generally higher on the basis of the production function, the more rapid fall in this series after 1973 means that the differences between the two series have tended to narrow over time and especially after 1979. In 1981 the capacity utilization rates estimated by the Secretariat were 5 to 6 points higher than those based on business surveys in Italy and the Federal Republic of Germany and were about the same in Austria and the United States. In France and the United Kingdom the rates of capacity utilization were 9 and 4 points lower than the business survey results. However, in spite of these differences the two sets of estimates yield broadly similar results (and in Austria and the United States almost identical results). Also both series move together quite closely over time and certainly there is no evidence of any significant divergence between the two after 1973. If the capacity utilization rates given by the business surveys had

remained high after the oil price shocks while the production function estimates showed a decline, this might have suggested that the latter were indeed underestimating withdrawals from the capital stock. But as the data indicate, this is not the case.

It should be pointed out that business surveys suffer from a number of disadvantages³⁰ which qualify the initial assumption made above that they may reflect changes in the economically useful capital stock more quickly than production function estimates of capacity. First, business surveys of capital utilization generally leave the concept of capacity undefined. It is therefore not clear whether respondents refer to the capital stock alone or whether they consider capacity in the wider sense, as used in the Secretariat's estimates. It is also uncertain to what extent respondents are consistent in their choice of capacity concept over time. Secondly, it is unclear how marginal plant and equipment are recorded by the respondents. There will be biases if they are included in periods of high and excluded in periods of low demand. Because of cyclical fluctuations in labour productivity another source of bias will be introduced if firms use labour input instead of output as a proxy for assessing their rate of capacity utilization. Finally, respondents may find it difficult to assess the actual developments of capacity utilization and therefore will tend to report no change when there actually has been a change; this would imply that capacity utilization reported in business surveys lags behind the true utilization rate. Nevertheless, in spite of all these qualifications and the difficulties of interpreting the survey data, it is still the case that two very different methods of estimation both indicate very large margins of unused capacity in the manufacturing industries of western Europe and North America.

Appendix

Sections 1.1 and 1.2 refer frequently, in the text and tables, to forecasts of GDP and its components in 1983. For the most part these are official national forecasts although where these were not available or sufficiently up-to-date the forecasts of independent forecasting institutes were used instead. Regional aggregates were made by the Secretariat on the basis of the dollar values of the relevant variables at 1975 prices and exchange rates. The sources of the various forecasts are given below. The letters in parentheses refer to the months in which forecasts were published: S, O, N, D = September, October, November and December 1982; J, F = January and February 1983.

Austria (D): Oesterreichisches Institut für Wirtschaftsforschung, *Monatsberichte*, No.12/1982; Belgium (D): Ministère des Affaires Economiques, *Budget Economique de 1983 Version d'Automne*, Décembre 1982; Denmark (O): Det Økonomiske Råd, *Dansk Økonomi*, Oktober 1982; Finland (F): Ministry of Finance, Economics Department *Conjunctural Review*, mid-February forecast; France (O): *Comptes prévisionnels de la nation pour 1982 et principales hypothèses économiques pour 1983*; Germany, Federal Republic of (J): Deutsches Institut für Wirtschaftsforschung, *Wochenbericht No.1-2/83*; Ireland (D): The Economic and Social Research Institute, *Quarterly Economic Commentary*, December 1982; Italy (J): ISCO, *Rapporto semestriale sull'evoluzione congiunturale dell'economia italiana*, January 1983; Netherlands (S): Central Planning Bureau, *Macro Economische Verkenning 1983*, September 1982; Norway (D): Ministry of Finance, *Final Budget Proposal 1983, Parliamentary Bill No.1, Addendum 17* (1982-1983), 3 December 1982; Sweden (J): *Preliminary National Budget 1983*, January 1983; Switzerland (D): *La Vie économique*, No.1/1983; United Kingdom (F): *National Institute Economic Review*, February 1983; United States (F): *Economic Report of the President*, February 1983.

³⁰ See, e.g. L.J. Christiano, "A Survey of Measures of Capacity Utilization", *IMF Staff Papers*, Vol.28, No.1, March 1981, pp. 144-198, and F. de Leeuw, "Why Capacity Utilization Estimates Differ", *Survey of Current Business*, Washington D.C., May 1979, Vol.59, No.5, pp. 45-55.

TABLE 1.2.11
A comparison of capacity utilization rates in manufacturing industry
(Percentages and ratios)

A = Business survey results
B = Production function approach (Secretariat estimates)

Country	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
Austria	A	88	89	88	89	89	82	83	84	83	86	86	83	79
	B	88.4	87.6	88.0	90.5	91.8	82.9	84.8	86.3	82.7	85.7	86.4	81.6	78.6
	Ratio B/A	1.00	0.98	1.00	1.03	1.03	1.02	1.02	1.03	1.00	1.00	1.00	0.98	0.99
France	A	86.1	85.8	85.8	86.3	87.6	78.3	83.1	83.4	83.7	84.6	84.8	82.2	69.0
	B	99.7	99.5	98.6	96.6	94.2	85.1	85.6	83.6	82.0	81.2	76.5	73.4	69.0
	Ratio B/A	1.16	1.16	1.15	1.12	1.08	1.09	1.03	1.00	0.98	0.96	0.90	0.89	
Germany, Fed. Rep. of	A	89.5	90.8	86.2	85.0	87.1	76.0	80.2	80.9	80.9	84.2	83.9	79.2	
	B	102.5	102.0	98.6	96.7	98.2	88.2	92.9	92.2	90.6	92.7	90.2	85.0	80.2
	Ratio B/A	1.15	1.12	1.14	1.14	1.13	1.16	1.16	1.14	1.12	1.10	1.08	1.07	
Italy	A	80.9	81.1	77.6	76.5	76.5	70.6	72.0	73.8	72.3	75.4	75.5	73.0	
	B	98.3	98.6	92.8	91.0	94.2	81.0	89.2	83.0	80.4	81.5	81.8	78.0	73.6
	Ratio B/A	1.22	1.22	1.20	1.19	1.23	1.15	1.24	1.12	1.11	1.08	1.08	1.07	
United Kingdom	A	88.3	85.9	80.7	79.7	87.9	77.6	76.1	78.9	79.4	84.2	77.2	73.2	
	B	94.3	90.7	89.9	90.4	96.2	87.3	86.3	84.7	82.5	81.5	73.6	68.8	67.2
	Ratio B/A	1.07	1.06	1.11	1.13	1.09	1.14	1.13	1.07	1.04	0.97	0.95	0.94	
United States	A	85	81	80	83	86	77	81	83	84	83	78	76	
	B	91.3	83.4	84.5	89.1	94.3	78.0	82.3	84.9	86.0	85.0	77.7	75.7	66.4
	Ratio B/A	1.07	1.04	1.06	1.07	1.06	1.05	1.02	1.02	1.02	1.02	1.00	1.00	

Source: Series A: Business survey results: Austria: Österreichisches Institut für Wirtschaftsforschung, *Monatsscheite*, various issues. Data refer to capacity utilisation in autumn of the corresponding year. ("Ergebnisse des Investitionstests"), France, Federal Republic of Germany, Italy, United Kingdom: Data are from Commission of the European Communities, *European Economy*, No. 3, March 1982, Supplement B, Table 5. Data exclude food, beverages and tobacco. Note that the series for the United Kingdom are estimated by the Commission using the national (Confederation of British Industry) data on the percentage of firms reporting below-capacity working. United States: "Commerce series" (Bureau of Economic Analysis). The data are taken from the *Economic Report of the President*, Washington 1983, Table B-45, p.243. Series B: As for table 1.2.10.

1.3 LABOUR MARKETS*

As in 1981, developments in the labour market in 1982 were dominated by the continuing increase in unemployment. In western Europe the average rate increased from 7 per cent in 1981 to nearly 8 1/2 per cent in 1982. Differences between countries are large with European rates ranging between some 3 and 12 per cent (ignoring the exceptionally low rate in Switzerland). In North America rates of unemployment have risen more sharply, from 7 1/2 per cent in 1981 to 9 1/2-11 per cent (table 1.3.1).³¹

In both Canada and the United States the effect of the recession on unemployment had not yet been fully felt in 1980 and 1981 and the increase in the average unemployment rate in 1981 was relatively modest in both countries. An upturn in unemployment started in the last quarter of 1981 and continued through most of 1982. The rise in the unemployment rate, in both countries together, was about 0.5 percentage points between 1980 and 1981, but jumped 2 percentage points in the following year.

In contrast to the evolution in North America, large increases in unemployment had already occurred in western Europe and the rising trend continued in 1982. Even so, preliminary data suggest that there may have been a very slight deceleration in the growth of unemployment in western Europe between 1981 and 1982. According to the available statistics for 1982, the increase of the unemployment rate, which was of the order of 1.6 percentage points between 1980 and 1981, may have been somewhat below that between 1981 and 1982 (see table 1.3.1).

Statistics of the annual averages of the *number of unemployed* show the same tendency in each of the sub-regions. In western Europe the number of unemployed increased by somewhat over 20 per cent between 1981 and 1982 compared with a rise of more than 30 per cent from 1980 to 1981. In North America the number in 1981 was less than 10 per cent higher than in 1980, but the difference between 1981 and 1982 was close to 30 per cent.

The rapid deterioration of unemployment in North America between 1981 and 1982 is obvious from these figures. In western Europe the unemployment rate still increased substantially although there was a slowdown in the rate of growth of the number of unemployed and of the increase in the unemployment rate. However, even this change may have been more apparent than real. First, as occurred between 1980 and 1981, labour force growth appears to have slowed down further between 1981 and 1982, although less than in the year before. This may be a sign of individuals withdrawing from the

labour market because of the slim chances of finding employment, the discouraged worker effect. Another factor may be that together with the increase in unemployment, its average duration and the number of long-term unemployed have also risen. Since unemployment benefits normally stop after a certain period, the long-term unemployed who no longer receive benefits will tend to disappear from the unemployment statistics insofar as these are based on recipients of unemployment benefits.

The extent of variation in unemployment levels and of recent changes in them is considerable, as is shown in chart 1.3.1 which presents for 13 countries average annual unemployment rates since about 1970. The data suggest pronounced differences in the behaviour of unemployment rates, first in the longer-term and, second, in their response to the current recession. As regards the longer-term unemployment trends, one group of countries, which includes Austria, Norway and Sweden as well as Switzerland which is not included in the chart, showed until recently virtually no long-term increase in unemployment. In all the remaining countries there was at the time of the 1974-1975 recession an upward shift in unemployment, which, with the exception of the United States, has not approached pre-recession levels since.³² In some countries, like the Federal Republic of Germany and the Netherlands, unemployment more or less stabilized at its 1974-1975 level until the onset of the present recession. In the United Kingdom unemployment also remained fairly stable, but for a shorter period

TABLE 1.3.1

Unemployment rates in western Europe and North America, 1979-1982

	(Per cent of total labour force)			
	1979	1980	1981	1982
France	5.9	6.3	7.6	8.7
Germany, Fed. Rep. of	3.3	3.3	4.7	6.8
Italy	7.5	7.4	8.3	9.1
United Kingdom	4.9	6.3	9.7	11.2
Four major countries	5.3	.4	7.5	8.9
Austria	1.7	1.6	2.1	3.1
Belgium	7.1	7.5	9.6	11.3
Denmark	4.6	7.0	9.3	9.9
Finland	6.1	4.8	5.3	6.2
Ireland	7.4	8.2	10.2	12.3
Netherlands	4.0	4.6	7.0	11.0
Norway	1.9	1.7	2.0	2.6
Sweden	2.1	2.0	2.5	3.2
Switzerland	0.3	0.2	0.2	0.4
Nine smaller countries	3.7	4.0	5.3	6.8
Total western Europe	5.0	5.4	7.0	8.4
Canada	7.4	7.5	7.5	11.0
United States	5.7	7.0	7.5	9.5
North America	5.9	7.0	7.5	9.6
Total above	5.4	6.2	7.2	9.0

Source: National statistics and Secretariat estimates.

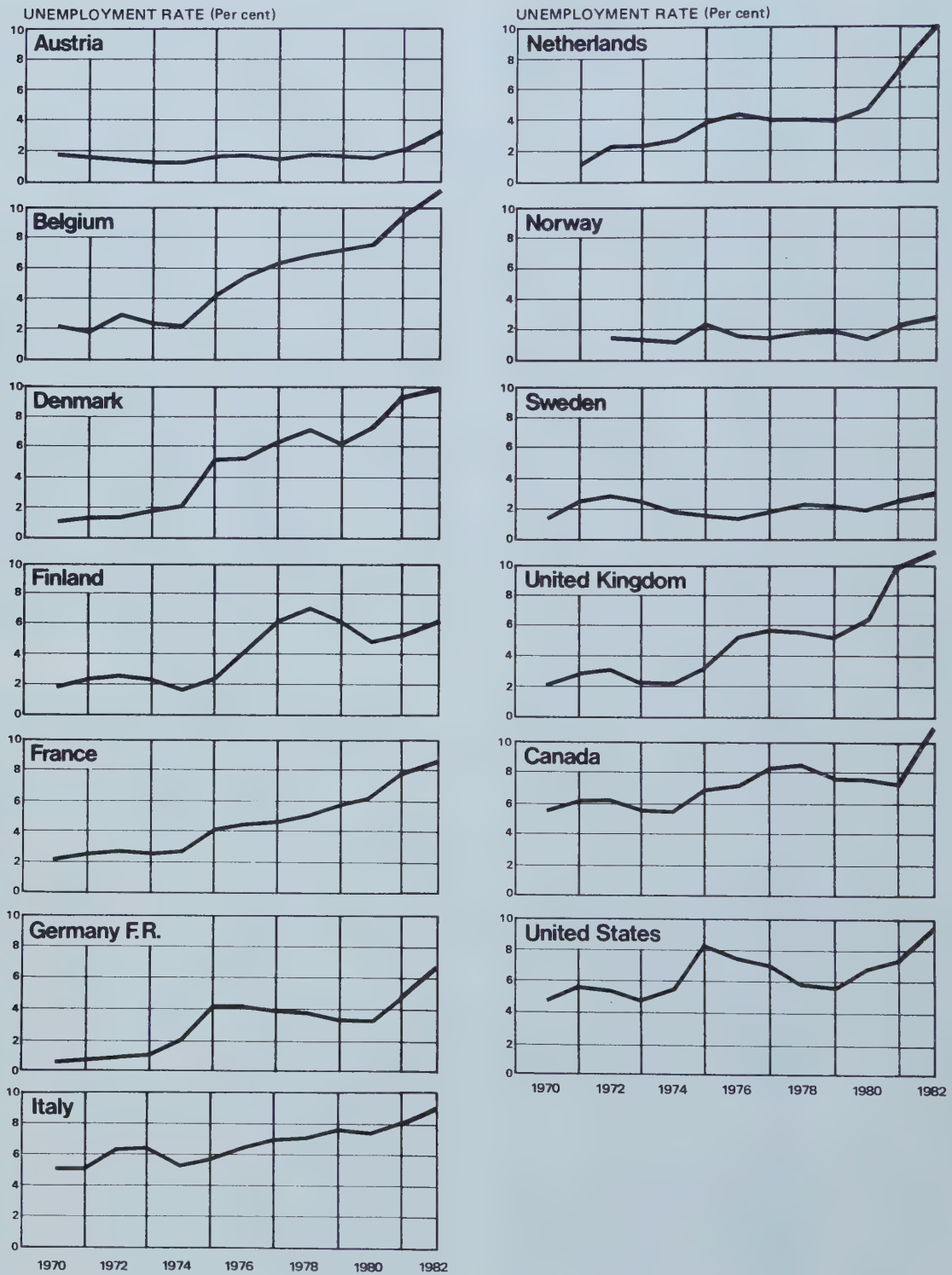
* Unless indicated otherwise, annual changes in this section refer to year-on-year changes.

³¹ These unemployment rates have been calculated on the basis of the total estimated labour force. They may therefore be lower than those obtained on the basis of narrower definitions of the labour force (civilian labour force, the working population excluding the self-employed) or on the basis of the number of those covered by employment or social insurance schemes. Nevertheless, taking into account the variations in national practices, the estimates on the whole seem to be consistent. In addition, it should be noted that the unemployment rates used here are annual averages. At times of rising unemployment, such as at present, annual averages may be substantially below the unemployment rates observed at the end of the year.

³² On the subject of an upward shift in unemployment at the time of the 1973 recession, see also Section 1.6.1 below.

CHART 1.3.1.

UNEMPLOYMENT RATES IN SELECTED COUNTRIES, 1970–1982



and at a higher level. In most other countries it continued to increase after 1975 at a fairly steady pace (as in Belgium, France and Italy) or with some fluctuation (as in Denmark and, to some extent, Canada). In Finland the major effect of the 1975 recession was postponed, partly as a result of government measures, until 1976–1978.

As a result of these developments, unemployment levels at the beginning of the current recession varied considerably between countries. Low unemployment rates still prevailed in Austria, Norway, Sweden and Switzerland. There was also a fairly low rate, of somewhat over 3 per cent, in the Federal Republic of Germany. At the other extreme in countries like Belgium, Canada, Denmark and Italy, unemployment ranged between 7 and 7.5 per cent and in Finland and the Netherlands between 5 and 6 per cent.

The evolution of unemployment levels in the current recession also differed considerably from country to country. Except in the low unemployment countries, rates of unemployment in 1982 ranged from 6 to over 12 per cent. In the countries with already high unemployment in 1979 (Belgium, Canada, Ireland and Italy) levels in 1982 varied, except for Italy, between 11 to over 12 per cent. Elsewhere the patterns of change are less clear. Between 1981 and 1982 the unemployment rate increased comparatively little (less than one percentage point) in Finland. It rose by about 2.5 percentage points in France and also in the United States. The worst deterioration appears to have occurred in the Federal Republic of Germany and the Netherlands. In the Federal Republic of Germany the rate more than doubled, although because of its low initial level it still remained below that of a number of other countries in 1982. In the Netherlands it increased by more than 80 per cent.

Of the four countries with low unemployment, three (Austria, Norway and Switzerland) showed a higher percentage increase in the number of unemployed in 1982 than in the year before. In Sweden, the fourth country with low unemployment, the number increased by the same proportion in both years. In all four countries unemployment rates increased more in 1982 than in 1981. In Finland the number of unemployed increased considerably faster than in 1981, but this possibly reflects the fact that the full impact of the recession was not felt in that country until 1981–1982. In the Federal Republic of Germany the number of unemployed increased by about the same percentage in both years.

However, in other west European countries the number of unemployed appears to have risen less in percentage terms in 1982 than in 1981. Even taking into account that some of the 1982 estimates are still provisional and that, for several reasons, unemployment statistics are not comparable from year to year,³³ what emerges from the data is at least the suggestion of a slowdown in the rate of growth in the number of the unemployed. Absolute numbers suggest a similar tendency: in all these countries, except one, the absolute number of the unemployed also increased less in 1982 than in 1981. The exception was the Netherlands, where the increase in numbers in 1982 was higher than in 1981. The deceleration in both the proportionate and absolute increase was, except for Ireland, most pronounced in countries which had the highest levels of unemployment in 1981 (Denmark, Belgium and the United Kingdom).

Estimates of the percentage increases in unemployment between corresponding quarters of 1981 and 1982 generally seem to confirm the tendencies described above (see table 1.3.2). Of the three countries with low unemployment, two, Norway and Switzerland, experienced an acceleration in the growth of unemployment in the course of the year. In Sweden annual unemployment growth did not accelerate significantly between 1981 and 1982 and this can be seen to be due to the sharp deceleration in the last quarter.

In France and the United Kingdom, where the annual growth in unemployment slowed down between 1981 and 1982, the quarterly rates of increases also declined. The deceleration is noticeable in both countries and although quarterly data may be subject to more erratic variations than annual ones, the decrease seems to be large enough to confirm this development.³⁴ Some additional evidence for a slowing down in the rate of increase of unemployment comes from the data on employment: in most of the countries concerned (Belgium, France, the United Kingdom) the drop in employment in 1982 seems to have been less than in 1981. The growth of unemployment in the Netherlands did not decelerate as much as in the other countries and, as noted above, the absolute increase in 1982 was bigger than in 1981. This is reflected in the fairly constant quarterly rate of increase throughout 1982. In the United States the growth of unemployment accelerated during the first three quarters, but slowed down in the fourth.

Employment figures also provide clear evidence of the severity of the recession. Between 1981 and 1982, only two countries, Finland and Norway, seem to have registered a clear increase in employment, although in the case of Finland, the increase was less than between 1980 and 1981. In 1981 there were still some seven countries where employment increased. According to the available estimates, employment in the 15 countries fell between 1981 and 1982 by approximately 1.2 per cent, compared with virtual stagnation between 1980 and 1981. These overall figures conceal substantial inter-country differences in yearly changes, and particularly between North America and western Europe. In Canada and the United States, employment had increased substantially, by some 2.5 and 1.2 per cent

TABLE 1.3.2

Quarterly increases in unemployment between 1981 and 1982

Country	Per cent increase in unemployment between the corresponding quarters of 1981 and 1982			
	1st quarter	2nd quarter	3rd quarter	4th quarter
France	20	16	12	7
Netherlands	42	38	44	42
Norway	3	26	19	83
Sweden	36	41	36	4
Switzerland	49	118	165	..
United Kingdom	24	17	12	11
United States	20	29	37	31

Sources: National statistics and Secretariat estimates.

³³ For instance, the unemployment series for the United Kingdom were revised in late 1982: this involves a downward revision with respect to earlier years. In France, changes in unemployment registration may also have affected the unemployment data.

³⁴ Even if account is taken of the fact that changes in unemployment registration may have affected the comparability of the statistics for the fourth quarter, the downward trend is still obvious in the first three quarters.

respectively in 1981. However, in 1982 there was a fall in both countries. The drop was especially large in Canada (between 3 and 4 per cent) and was about 1 per cent in the United States.

In contrast, the greatest loss in jobs in western Europe appears to have occurred in 1981 when total employment is estimated to have declined by about 1.4 per cent. Provisional data suggest that the fall may have been somewhat less in 1982, although at about 1.2 per cent it was still substantial. As might be expected, the biggest losses in the number of jobs have occurred in countries where the rate of increase of unemployment was high, such as the Federal Republic of Germany and the Netherlands. Also, in all those countries with relatively low unemployment there was in 1982 either a lower positive rate of growth of employment than in 1981 (Norway), a turnaround from positive to negative growth (Austria and Switzerland), or a larger decline than in 1981 (Sweden). In countries with already high unemployment, such as Belgium and the United Kingdom, the decline in the number of jobs in 1982 was less than in 1981.

Developments in the labour market in 1982 have given rise to a considerably greater concern with unemployment problems than was the case in 1981. Several factors have contributed to this. First, unemployment has risen in countries which earlier had been relatively immune to the deterioration in employment. Although unemployment levels in these countries are still relatively low, the acceleration of the increase in unemployment in some of them appears to have been very strong. In the second place, unemployment in North America, after a moderate annual increase in 1981, rose sharply in 1982. The increase in the unemployment rate, particularly in Canada and to a lesser extent in the United States, was quite steep. In the third place, although the rate of increase may have slackened in west European countries with already high unemployment, unemployment rates still increased considerably between 1981 and 1982. Finally, in countries such as the Federal Republic of Germany and the Netherlands, where levels of unemployment were still fairly moderate in 1980, there was a large increase in both 1981 and 1982.

Moreover, *labour force* developments in a number of countries appear to have reduced the impact of the fall in employment on unemployment rates. Although labour force estimates are even more provisional than the other estimates, they do suggest on average a slower rate of growth in 1982 than in 1981. Whereas in 1981 the labour force declined in only two out of 15 countries, in 1982 it did so in as many as seven countries. The labour force appears to have grown more in 1982 than in 1981 in only two countries. Tentative estimates suggest that the growth in the west European labour force may have slowed down in 1982 to barely one-fourth of 1 per cent. In North America, its growth rate may have fallen from about 1.7 to 1.0 per cent, with a particularly sharp drop in Canada (from a growth of more than 2.5 per cent in 1981 to a marginal increase in 1982).

The growing emphasis on policies to deal with the worsening problem of unemployment raises the question of the appropriate scope and type of policies to be implemented. One of the many factors which is relevant to this issue is the *sex and age distribution* of the unemployed. Detailed information on these characteris-

tics for 1982 are still missing and in the following only some partial data will be discussed.

As argued in last year's *Survey*,³⁵ there is a presumption that the initial increase in unemployment during a recession may have a greater effect on male than on female unemployment. Data for several countries seem to bear this out. In Austria the initial rise in unemployment was associated with a considerable increase for men. In Canada, where employment also rose sharply in 1982, the unemployment rate for men increased considerably more (from 4.9 per cent in 1981 to 8.1) than for women (from 6.7 per cent in 1981 to 8.8 in 1982). Employment data also seem to confirm the greater sensitivity of male employment in the earlier phases of a downturn. In Switzerland the index of employment for men fell by 2.5 per cent between the first and second quarters of 1982, compared with a decline of somewhat over 1 per cent for women. In Canada and the United States combined the number of employed men fell by more than 2 per cent between 1981 and 1982, whereas women's employment remained virtually unchanged.

After the initial upsurge in unemployment, the impact on women's unemployment becomes stronger and eventually both men and women appear to be more or less equally affected. According to data for five west European countries combined (Denmark, France, the Netherlands, Norway and Sweden) employment of men dropped by more than 2 per cent between 1980 and 1981, when women's employment still rose by about 1 per cent. Between 1981 and 1982, however, although male employment still declined by about 1.2 per cent, the number of employed women dropped by 1.5 per cent. Obviously, the loss of employment for men was smaller in 1982, while in the case of women it turned from positive growth to a significant decline. The later phase is illustrated by developments in the United Kingdom where the number of unemployed men and women increased by about the same proportion between 1981 and 1982. Data on employment by sex in the United Kingdom confirm the expected changes.

High levels of youth unemployment have been a characteristic of labour markets for a number of years. Nevertheless, there have also been signs that with the longer duration of the recession, unemployment in the central age group is also showing a tendency to increase.³⁶ Age patterns of unemployment may, therefore, vary from country to country depending on the depth and length of the recession and its impact on total employment. Canada, where there was a sharp rise in unemployment in 1982, also shows a very sharp increase in youth unemployment rates, from 13.3 in 1981 to 18.8 per cent in 1982, an increase of 5.5 percentage points (the total unemployment rate increased by about 3.5 percentage points). In Sweden, where unemployment rates are still low and increased only moderately between 1980 and 1981, the youth unemployment rate rose by 2.5 percentage points. Unemployment rates also rose significantly for older workers (55–64 years) from about 1.5 per cent in 1980 to over 3 per cent in 1982. These changes compare with a very moderate increase of less than one percentage point for the central age group (25–54 years).

³⁵ *Economic Survey of Europe in 1981*, p.24.

³⁶ *Ibid.*, p.27.

1.4 COSTS AND PRICES

There was a significant fall in the rate of inflation both in western Europe and in North America last year. Measured by the year-to-year change in consumer prices, the average annual rate of increase fell from about 11 1/2 per cent to just over 9 1/2 per cent in western Europe and from nearly 10 1/2 per cent to just over 6 per cent in the United States (table 1.4.1). In terms of the broader measure of price inflation, the implicit deflator of GDP, the deceleration was not so sharp: from some 10.3 to 9.6 per cent in western Europe and from 9.4 to 6 per cent in the United States (table 1.4.2). The quarterly rates of change show a faster rate of deceleration of consumer prices in the latter half of 1982, particularly in the United States.

The drop in inflation rates is of course extremely welcome to policy makers and is much emphasized as an indication of the success of the current policy stances against inflation. However, in a longer perspective the deceleration is not that great. It has now taken two and a half years to get the average west European inflation rate down from its previous peak of 11.8 per cent in the second quarter of 1980 to 8.6 per cent in the last quarter of 1982. This latter rate, in spite of record levels of unemployment and of spare capacity, is still some way above the lowest rate achieved between the two oil shocks. After the first shock the average rate of consumer price increase in western Europe peaked at 14.3 per cent in the last quarter of 1974: it then took four years to fall to 6.2 per cent in the fourth quarter of 1978. This was actually a faster rate of decline than that which has so far followed the second shock. Although policy was generally successful in holding back the effects of the latter to a lower peak rate of inflation than had followed the first shock, the inflation rate in western Europe has in some ways proved more intractable after the second shock: after the end of 1974 the average rate began a steady decline to its low point at the end of 1978, but after its second peak in early 1980 the rate remained stubbornly around 11 1/2 per cent until the beginning of 1982.

In contrast to the average west European experience the decline in the rate of inflation after the second oil shock in the United States has been much faster than in Europe: from 14.5 per cent in the second quarter of 1980 to 4.5 per cent at the end of 1982, which is just below the lowest rate achieved after the first shock.³⁷ However, this latter rate is probably below the "true" rate insofar as the dollar appears to have been significantly overvalued for much of the period since early 1980.³⁸

In western Europe the inflation rate in 1982 fell in all countries except Belgium. The sharpest rates of decline in the annual rate were in Sweden, the United Kingdom, Finland and Austria, where (except in Austria) the disinflation process was already under way in 1981. There was not much decline in the Federal Republic of Germany and the Netherlands, where inflation rates

were initially lower than in most of western Europe. Nor was there much of a fall in the annual rate in France, but this mainly reflects performance in the first half of the year: the rate of deceleration in the second half of the year was among the fastest in Europe due to the introduction of a freeze on incomes and prices (with some exceptions for petroleum and coal and steel prices) designed to preserve the competitive effects of the devaluation of the franc.

In the United States and in about half the European countries in table 1.4.1, the fall in the rate of inflation was already under way in 1981 and this continued through 1982. However in Denmark, France, the Federal Republic of Germany, Ireland and Canada, the inflation rate had risen in 1981 and the fall only began in 1982, with some interruptions in Ireland and Denmark. Although a number of general factors (prolonged recession, lower wage cost pressures, falling world commodity prices) have influenced the inflation rate in all west European countries in a downward direction, exchange rate movements and attempts to reduce domestic cost pressures in a number of countries with direct controls on prices and incomes account for much of the inter-country differences over the year.

The difference between the rates of inflation in the United States and western Europe enlarged significantly in 1982: in 1981 the United States' rate was one percentage point below the average west European rate; in 1982 this had widened to 3 1/2 points. By the last quarter of 1982 the rate in the United States was slightly below the lowest individual rates in Europe (Austria, the Federal Republic and the Netherlands). However, the currency misalignments referred to above probably lead to some understatement of the underlying inflation rate in the United States and to an overstatement in, for example, the Federal Republic of Germany. (Similarly the inflation rate in 1981 and 1982 is perhaps overstated in Japan, but the rate there was already less than half the west European and United States rates in 1981.) Within western Europe inter-country differences in the rate of inflation have been falling gradually, but they still remain quite large.³⁹

The rate of increase in *average hourly earnings* in western Europe continued to decline during 1982 (table 1.4.3). The average rise in 1982 for manufacturing industry is expected to be less than 10 per cent, around 1 percentage point less than in 1981 and 2 points less than in 1980. On the basis of data for the first three quarters, annual growth rates of nominal earnings accelerated significantly only in the Netherlands where the rate more than doubled (7.0 per cent in 1982 compared with 3.0 per cent in 1981) and to a lesser extent in Denmark, France and Switzerland. However, in all these countries the rate of increase decelerated after the second quarter. In the Netherlands the rate levelled off in the second quarter and then decelerated throughout the second half of the year as a result of measures taken by the government to limit the rise in wages and salaries in 1982 to 6 per cent (the measures included limiting automatic wage indexa-

³⁷ It has also decelerated rapidly in Japan where the rate in the last quarter of 1982, comparable to those in table 1.4.1, was 2.4 per cent.

³⁸ See Robert A. Feldman, 'Dollar appreciation, foreign trade and the US economy', Federal Reserve Bank of New York *Quarterly Review*, Summer 1982. Currency overvaluation has also helped to lower prices in the United Kingdom.

³⁹ The standard deviation of the average west European rate of inflation shown in table 1.4.1 has fallen from 4.6 points in the third quarter of 1981 to 3.5 points in the last quarter of 1982.

TABLE 1.4.1

Annual and quarterly changes in consumer prices, 1980-1982
(Percentage change over corresponding period of preceding year)

	1980	1981	1982	1981				1982			
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Austria	6.4	6.8	5.4	7.0	6.8	6.6	6.9	6.0	5.9	5.2	4.7
Belgium	6.6	7.6	8.7	7.2	7.3	8.1	7.9	7.6	9.2	9.1	8.9
Denmark	12.3	11.7	10.1	10.9	12.2	11.7	12.1	11.6	9.5	9.6	9.9
Finland	11.6	12.0	9.3	13.1	12.7	11.8	10.5	10.4	9.6	9.1	8.2
France	13.6	13.4	11.8	12.6	12.8	13.6	14.1	14.0	13.8	10.9	9.5
Germany, Federal Republic of	5.5	5.9	5.3	5.6	5.6	6.1	6.5	5.8	5.4	5.2	4.7
Ireland ^a	18.2	20.4	17.1	21.0	17.1	20.1	23.3	18.9	21.0	17.0	12.3
Italy	21.2	19.5	16.5	20.1	20.6	19.2	18.4	17.0	15.5	16.7	16.6
Netherlands	6.5	6.7	6.0	6.7	6.5	6.6	7.2	6.9	6.5	5.8	4.6
Norway	10.9	13.6	11.3	14.6	14.1	13.7	12.3	11.8	11.1	10.9	11.6
Sweden	13.7	12.1	8.6	12.8	13.1	12.7	9.9	9.0	8.6	7.8	8.9
Switzerland	4.0	6.5	5.6	5.8	6.0	7.2	7.0	5.3	5.9	5.6	5.8
United Kingdom	18.0	11.9	8.6	12.7	11.7	11.3	11.9	11.1	9.4	8.0	6.2
<i>West European average</i> (unweighted)	11.4	11.4	9.6	11.5	11.3	11.4	11.4	10.4	10.1	9.3	8.6
Canada	10.1	12.5	10.8	12.2	12.6	12.7	12.3	11.5	11.5	10.6	9.7
United States	13.5	10.4	6.1	11.2	9.8	10.9	9.6	7.6	6.8	5.8	4.5
Japan	8.0	4.9	2.7	6.6	4.9	4.1	4.0	3.1	2.4	2.7	2.4

Sources: National statistics; OECD, *Main Economic Indicators*, Paris.^a February, May, August, November, and averages thereof.

TABLE 1.4.2

Change in the implicit price deflator of GDP, 1980-1982
(Percentage change over previous year)

	1980	1981	1982
Austria	5.4	5.9	7.2
Belgium	4.2	5.4	8.1
Denmark	9.0	9.5	10.2
Finland	8.8	11.8	9.4
France	11.8	12.0	12.1
Germany, Federal Republic of	4.5	4.1	4.7
Ireland	13.9	17.7	16.5
Italy	20.7	17.6	17.6
Netherlands	5.3	5.6	6.5 ^a
Norway	14.5	14.9	10.9
Sweden	11.8	9.8	9.1
Switzerland	2.7	6.9	7.5
United Kingdom	19.2	12.1	7.8 ^b
Canada ^a	11.0	10.1	10.8 ^b
United States ^a	9.3	9.4	6.0

Sources: National statistics.

^a GNP deflator.^b January-September.

tion to earnings under Fl. 60,000 per annum and cutting the compensation for inflation by 1 per cent).

In the remaining west European countries nominal earnings decelerated for the year as a whole, most notably in Sweden, Italy and Finland. In Sweden, however, this deceleration reflects the high rate of annual increase in 1981: during 1982 the rate of increase levelled off at the rate of the last quarter of 1981. Despite a sharp deceleration throughout the year, the rate of increase in average earnings in Italy was still the highest among the west European countries. The rapid deceleration in nominal wage rates in Italy during 1982 was mainly due to the fall in the rate of inflation as wages were still being compensated for price changes through automatic indexation. During the first three quarters of 1982 the

general pace of increase in earnings was steadily, but not dramatically, downwards, with a generally sharper rate of fall in the third quarter.

The growth of *real earnings* in west European manufacturing industry, which had deteriorated strongly in 1981, improved during 1982 because inflation decelerated faster than nominal earnings. The average year-on-year rate of change (excluding Ireland) was 0.6 per cent in the first quarter and around 1.0 and 0.5 per cent in the second and third quarters respectively; these increases follow an average rate of decline of 0.6 per cent in 1981.

Real earnings fell only in Ireland, Belgium, the Federal Republic of Germany (slightly), Norway and Sweden. However, in the latter three countries the decline in real earnings was less than in 1981. The slower growth of nominal earnings was the main reason for the fall in real earnings in the Federal Republic of Germany and Sweden; in Ireland, Belgium and Norway, however, the main factor was the relatively slower deceleration of inflation. Real earnings accelerated or levelled off in the rest of western Europe, with particularly sharp increases in France and the United Kingdom. In France, the increase was largely due to higher nominal earnings, but in the United Kingdom decelerating consumer prices were mainly responsible.

In the United States there was almost no growth in real earnings due to a rapid deceleration of growth in nominal earnings, but in Canada real earnings, after a fall in 1981, recovered strongly mainly because of strong growth in nominal earnings.

A number of governments (in Belgium, Denmark, Finland, France, Italy and Sweden) have recently introduced wage controls and price freezes in an attempt to speed up the relatively slow response of wage-cost pressures to the decline in output and/or to contain the inflationary consequences of devaluation. A number of attempts have also been made to reduce the extent to which wages are indexed to price changes. For example, in Italy in June 1982, the Confindustria announced its intention not to renew the 1975 wage indexation agreement with the trade unions, effective as from

TABLE 1.4.3

Annual and quarterly changes in average hourly earnings in manufacturing industry
(Percentage change over corresponding period of previous year)

	1980	1981	1982	1981				1982			
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Austria ^a	7.9	6.2	..	5.0	8.4	6.5	4.9	8.2	7.0	5.4	..
Belgium ^b	8.8	9.4	7.4	10.1	9.7	9.0	9.7	9.5	7.5	7.4	5.5
Denmark ^c	11.3	5.0	10.4	8.7	8.4	8.9	9.9	10.2	11.1	10.3	10.0
Finland	12.6	12.9	..	14.5	13.0	13.2	10.5	12.6	9.4	9.6*	..
France ^d	15.1	14.5	..	14.8	13.7	14.0	14.8	16.0	18.1	16.8	12.4
Germany, Federal Republic of ^e	6.2	5.3	..	7.0	3.9	5.0	5.4	5.2	6.0	4.3	..
Ireland ^f	21.1	16.4	..	16.3	17.7	19.1	13.1	13.9	13.9	..	..
Italy ^g	22.5	23.7	17.2	23.1	24.9	24.1	22.7	20.4	17.0	15.4	16.1
Netherlands ^h	4.6	3.0	7.0	2.0	2.0	4.3	4.4	7.8	7.3	6.3	6.1
Norway ⁱ	9.3	10.2	..	13.8	12.0	7.4	8.0	7.7	11.3	10.6	..
Sweden ^c	10.3	10.6	7.8 ⁱ	15.0	10.9	9.3	7.9 ⁱ	7.9 ⁱ	8.9 ⁱ	7.7 ⁱ	6.7 ⁱ
Switzerland ^j	5.2	5.1	..	4.9	5.2	5.1	5.0	6.0	6.1	5.8	..
United Kingdom ^k	17.8	13.2	11.1	15.4	11.5	12.6	13.4	12.9	13.0	9.7	9.2
Canada	10.2	12.0	..	11.2	12.6	11.8	12.5	13.1	12.0	11.9	..
United States	8.5	9.9	6.4	10.8	11.0	9.9	8.2	7.9	6.7	5.9	5.0

Sources: National statistics, and OECD, *Main Economic Indicators*, Paris.

^a Monthly earnings of wage-earners in total industry.

^b Industry. Adult male workers.

^c Including mining and quarrying.

^d Wage rates. Quarterly data, referring to the beginning of January, April, July and October, respectively. Annual figures are obtained by averaging the five observations from January of one year to January of the following year.

^e Quarterly data, referring to January, April, July and October.

^f Quarterly data, referring to March, June, September and December.

^g Wage rates.

^h Males only.

ⁱ Excludes possible retroactive supplements.

^j Data refer to workers who had accidents during the relevant year.

^k Weekly earnings (all employees). Great Britain.

February 1983. In the following months, most of the other private sector employers' associations in Italy followed suit. Other countries where the automatic adjustment of incomes for inflation has been reduced or suspended include Belgium, France and Denmark. Even where governments have not resorted to direct controls on wages, the very size of the government sector in most industrialized economies means that decisions on public sector pay can have an important influence on average earnings in the economy as a whole. In a number of countries (for example, Denmark, the Federal Republic of Germany, the Netherlands, the United Kingdom, Canada and the United States) target limits for increases in public sector pay have been set as a means of containing the growth of total public expenditure and of exerting downward pressure on the average rate of wage settlements.

Unit labour costs in 1982 rose less than in 1981 (table 1.4.4). In western Europe, where the available data refer only to the total economy, they increased on average by 8.5 per cent compared with 10.3 per cent in 1981 and 10.6 per cent in 1980. There are, however, large inter-country differences in the rate of increase, ranging from 3.5 per cent in the Federal Republic of Germany to 18.5 per cent in Italy. Unit labour costs accelerated only in the Netherlands and Switzerland and to a lesser extent in Denmark. In Switzerland, the acceleration was due to a combination of falling productivity and accelerating nominal wages. In Denmark and the Netherlands acceleration was due to the acceleration in nominal earnings, productivity in both countries having improved in 1982.

The deceleration in unit labour costs in 1982 was mainly due to improved productivity except in Finland, Ireland and Sweden, where it was mainly due to slower growth in the compensation of employees. The deceleration in unit labour costs was greatest in Austria and the United Kingdom, mainly due to large declines in employment (notably in the United Kingdom) and a small improvement in output.

In North America, unit labour costs accelerated in Canada due to a sharp deterioration in productivity (which fell by 2 per cent); and decelerated further in the United States due to slower growth in the compensation of employees resulting from lower employment and lower rates of increase in nominal wage rates.

One of the most important influences on the recent fall in rates of inflation in the industrial market economies has been the collapse of world market prices of primary commodities. In section A of table 1.4.5 it can be seen

TABLE 1.4.4

Unit labour costs^a for the whole economy
(Percentage change over previous year)

	Unit labour costs		
	1980	1981	1982 ^b
Austria	4.7	7.8	4.5
Belgium	5.6	6.6	5.5
Denmark	10.7	8.5	9.5
Finland	10.5	13.3	9.0
France	13.1	12.7	11.0
Germany, Federal Republic of	6.4	4.6	3.5
Ireland	19.9	15.5	12.5
Italy	18.8	22.6	18.5
Netherlands	5.2	3.2	4.5
Norway	8.2	12.3	11.5
Sweden	10.7	9.7	6.5
Switzerland	2.9	6.5	8.5
United Kingdom	10.8	11.0	6.0
Canada	12.1	10.5	13.0
United States	10.0	8.5	7.0

Source: National statistics.

^a Compensation of employees per unit of real GDP or GNP.

^b Preliminary figures and Secretariat estimates rounded to the nearest 0.5 percentage point.

^c Refers to non-agricultural wages.

TABLE 1.4.5

Changes in the prices of raw materials and intermediate goods
(Percentage changes over corresponding period of preceding year)

	1979	1980	1981	1982	1982			
					Q1	Q2	Q3	Q4

A. World market price of raw materials								
All items:								
incl. energy	31.5	48.0	6.5	-5.0	-3.9	-4.7	-4.9	-6.6
excl. energy	22.0	13.7	-13.9	-13.3	-16.1	-11.5	-12.5	-12.5
Food	11.0	15.4	-16.2	-15.9	-21.2	-15.2	-14.2	-11.6
Industrial materials	31.0	12.6	-12.4	-11.4	-12.4	-9.1	-11.4	-13.0
Energy	36.9	65.1	13.6	-2.9	-0.4	-2.8	-3.0	-5.2
B. National intermediate goods prices								
Austria	7.7	16.2	15.2	3.8	9.6	5.6	1.3	-0.6
Belgium	7.4	8.0	8.3	8.9 ^N	10.4	10.0	7.5	7.3 ^N
Denmark	13.4	23.0	18.1	10.0 ^S	13.4	8.5	8.3	
Finland	11.4	19.0	15.6	6.4	11.3	6.4	4.4	4.0
France	13.3	8.8	11.0	11.0	14.3	12.3	9.7	8.3
Germany, Fed. Rep. of	10.0	14.0	11.6	3.4	7.3	3.6	0.8	2.2
Ireland	13.6	14.0	12.6	8.1	8.7	7.7	7.9	7.7 ^O
Italy	19.3	22.8	18.1	13.4 ^O	17.3	12.7	11.2	11.3 ^O
Netherlands	10.8	19.5	20.0	5.1 ^N	13.8	4.5	0.3	1.8 ^N
Norway	17.9	28.8	17.6	7.0	8.2	2.7	5.9	10.2
Sweden	25.1	8.3	12.3	12.9 ^J	13.8	12.1		
Switzerland	4.8	5.8	6.2	2.3	4.7	3.1	1.5	0.2
United Kingdom	15.9	19.9	13.6	6.8	11.4	6.3	3.8	6.1
Canada	17.8	14.5	19.2	8.3 ^N	11.6	9.9	6.9	3.6 ^N
United States	12.3	13.4	7.7	1.4	3.6	2.0	0.0	-0.2

Sources: National statistics. Raw material price indices are constructed on the basis of US dollars by the HWWA (Hamburg) and published in *Bulletin de la Banque Nationale de la Belgique*.

Note: J = January-June. S = January-September. O = January-October or October. N = January-November or October + November.

Definitions of national indices:

- Austria — Wholesale price index, aggregate (by Secretariat) of following series: Solid fuels; Mineral oil products; Textiles; Wood and semi-manufactures; Hides and skins, leather; Flat glass; Building materials; Iron and steel, and semi-manufactures; Non-ferrous metals and semi-manufactures; Scrap and waste.
- Belgium — Wholesale price index, aggregate (by Secretariat) of Raw materials and Semi-manufactures.
- Denmark — Wholesale price index, Producer goods (includes raw materials for agriculture, raw materials for other sectors, fuels and lubricants).
- Finland — Producer price index, Raw materials and producer goods.
- France — Wholesale price index, Industrial products (includes raw materials and semi-manufactures but excludes fuels and energy).
- Germany, Federal Republic of — Basic material price index, Industry and construction.
- Ireland — Wholesale price index, Transportable capital goods for use in industry.
- Italy — Wholesale price index, Intermediate goods and auxiliary materials.
- Netherlands — Basic material price index, Total purchases.
- Norway — Wholesale price index, aggregate (by Secretariat) of Raw materials, inedible and Fuels, electricity.
- Sweden — Wholesale price index, aggregate (by Secretariat) of Industrial materials and supplies and Fuels, lubricants.
- Switzerland — Wholesale price index, aggregate (by Secretariat) of Raw materials and semi-manufactures (including agriculture) and Energy and related products.
- United Kingdom — Wholesale price index, Materials and fuels purchased by manufacturing industry.
- Canada — Raw material price index, Total including fuels.
- United States — Producer price index, Intermediate materials and supplies for manufacturing.

that the HWWA-index⁴⁰ (excluding energy materials) fell by 13.3 per cent in 1982, virtually the same as the decline of 13.9 per cent in 1981. Industrial materials also fell for the second year in a row by about 11 per cent after roughly 12 per cent in 1981. Foodstuffs showed a much sharper decline, of about 16 per cent, in both 1981 and 1982. However, perhaps the most significant event was the fall of 3 per cent in energy materials prices. This was the first time since the oil price increase of 1973/74 that prices of crude petroleum fell: they had risen at an average annual rate of about 35 per cent between 1973 and 1981. As a consequence, the total index including energy declined by 5 per cent in 1982. The last time this index had fallen was in 1978 (by 1 per cent) owing to a sharp fall in prices of foodstuffs and, before that, in 1975 (-4 per cent), when there was an absolute fall of industrial material prices.

The above changes are based on prices measured in US dollars. Owing to the further depreciation of the west European currencies vis-à-vis the dollar, they have not

influenced domestic price levels to the same extent. A further factor making for inter-country differences in the development of intermediate goods prices is the different weighting pattern in each country.

Nevertheless, it can be seen from section B of table 1.4.5 that the general trend was for a marked decline in the rates of growth of intermediate goods prices. The average rate of change for the year tends in a number of cases to give a somewhat distorted picture of the actual deceleration which took place in the course of the year. The limited data available suggest that prices of imported intermediate goods rose in general much less than those of domestic products and, in fact, showed an absolute decline in some cases.

Besides changes in real wage costs, one of the most important factors impinging on profit margins is the relative development of output prices and intermediate goods prices. It is, therefore, of interest to compare, at the national level, the development of intermediate goods prices relative to output prices. Changes in output prices of manufacturing industry are depicted in table 1.4.6. As above, the general feature is a deceleration in the increase of output prices, but which was less pronounced than in the case of intermediate goods prices.

⁴⁰ This index weights world market prices by the relevant product shares in total imports of western industrialized countries in 1974-1976.

TABLE 1.4.6

Changes in final output prices of manufacturing industry
(Percentage change over corresponding period of preceding year)

	1979	1980	1981	1982	1982			
					Q1	Q2	Q3	Q4
Austria	4.2	8.6	8.1	3.1	5.6	5.5	1.6	0.2
Belgium	4.4	5.3	6.6	7.1 ^N	7.1	7.7	6.7	6.6 ^N
Denmark	6.5	14.5	13.3	11.2 ^S	13.5	10.7	9.4	
Finland	10.0	14.6	11.8	7.7	9.7	7.8	6.2	7.2
France	11.3	16.3	12.8	11.5	12.8	13.0	10.2	9.9
Germany, Fed. Rep. of	5.1	7.1	6.3	4.8	6.0	4.8	4.2	4.0
Ireland	11.8	10.9	16.7	12.1 ^N	15.2	12.7	10.6	9.4 ^N
Italy	11.9	17.5	17.0	15.0 ^O	16.6	14.2	14.6	14.3 ^O
Netherlands	2.7	8.2	9.2	6.8 ^N	8.6	7.5	5.7	4.9 ^N
Norway	8.0	12.3	9.9	7.0	8.2	5.7	5.2	6.5
Sweden	10.7	12.9	10.0	12.0	12.8	12.3	11.0	11.9
Switzerland	1.9	4.4	5.6	3.7	4.7	4.3	3.7	2.0
United Kingdom	12.2	16.3	10.7	8.6	10.3	8.5	8.0	7.7
Canada	14.4	13.4	10.2	6.2 ^N	7.3	6.9	5.5	4.5 ^N
United States	12.0	14.3	9.4	2.6 ^O	4.3	1.9	1.8	1.4 ^O

Sources: National statistics.

Note: ^S = January-September. ^O = January-October or October. ^N = January-November or October + November.

Definitions of national indices:

Austria — Wholesale price index, All items.

Belgium — Wholesale price index, Finished products.

Denmark — Wholesale price index, Domestic goods.

Finland — Producer price index, Manufactures.

France — Consumer price index, Manufactured products.

Germany, Fed. Rep. of — Producer price index, Manufacturing industry.

Ireland — Wholesale price index, Output of manufacturing industry, all items.

Italy — Wholesale price index, aggregate (by Secretariat) of final consumer goods and final investment goods.

Netherlands — Producer price index, Finished (consumer + investment) goods.

Norway — Producer price index, Manufacturing industry.

Sweden — Producer price index, Manufactured products.

Switzerland — Wholesale price index, Domestic goods.

United Kingdom — Wholesale price index, Output of manufacturing industry, home sales.

Canada — Industry selling price index, Manufacturing.

United States — Producer price index, Manufactures

TABLE 1.4.7

Differences between the change in intermediate product prices and final output prices

	1979	1980	1981	1982	1982			
					Q1	Q2	Q3	Q4
Austria	-3.5	-7.6	-7.1	-0.7	-4.0	-0.1	0.3	0.8
Belgium	-3.0	-2.7	-1.7	-1.8 ^N	-3.3	-2.3	-0.8	-0.7 ^N
Denmark	-6.9	-8.5	-4.8	1.2 ^S	0.1	2.2	1.1	..
Finland	-1.4	-4.4	-3.8	1.3	-1.6	1.4	1.8	3.2
France	-2.0	7.5	1.8	0.5	-1.5	0.7	0.5	1.6
Germany, Fed. Rep. of	-4.9	-6.9	-5.3	1.4	-1.3	1.2	3.4	1.8
Ireland	-1.8	-3.1	4.1	4.4 ^O	6.5	5.0	2.7	2.1 ^O
Italy	-7.4	-5.3	-1.1	1.6 ^O	-0.7	1.5	3.4	3.0 ^O
Netherlands	-8.1	-11.3	-10.8	1.7 ^N	-5.2	3.0	5.4	3.1 ^N
Norway	-9.9	-16.5	-7.7	—	—	3.0	-0.7	-3.7
Sweden	-14.4	4.6	-2.3	-0.4 ^J	-1.0	0.2	..	..
Switzerland	-2.9	-1.4	-0.6	1.4	—	1.2	2.2	1.8
United Kingdom	-3.7	-3.6	-2.9	1.8	-1.1	2.2	4.2	1.6
Canada	-3.4	-1.1	-9.0	-2.1 ^N	-4.3	-3.0	-1.4	0.9 ^N
United States	-0.3	0.9	1.7	1.0 ^O	0.7	-0.1	1.8	1.6 ^O

Sources: As for tables 1.4.5 and 1.4.6

Note: ^J = January-June. ^S = January-September. ^O = January-October or October. ^N = January-November or October + November.

Table 1.4.7 shows the *differences* between the growth rates of final output and national input prices. It can be seen that from 1979 to 1981 intermediate goods prices increased in general at a higher rate than output prices, hence putting pressure on industrial profit margins.

In 1982 this situation was reversed in all countries (with the exception of Austria and Belgium) when higher rates of increase were recorded for output prices. This,

together with a more favourable development of unit labour costs should have created the possibility for significant improvements in the profit margins of manufacturing industry. However, it is unlikely that under the prevailing conditions of weak or even declining demand, these improved margins can be translated into a much higher operating surplus.

Some idea of the relative importance of these various

TABLE 1.4.8

Factors contributing to the total rise in final output prices, 1981–1982
(Percentage change on previous year)

	Rise in final output prices ^a	of which due to:			
		Wage costs ^b	Other factor incomes ^c	Net taxes on expenditure	Import costs
Austria					
1981	7.10	2.91	0.45	0.63	3.12
1982	5.26	1.95	—3.57—		—0.25
Belgium					
1981	8.63	2.35	0.47	0.42	5.38
1982	9.62	1.77	2.38	0.60	4.87
Finland					
1981	11.68	6.19	2.47	1.18	1.84
1982	6.93	3.72	1.94	0.91	0.37
France					
1981	12.72	5.91	2.67	1.02	3.11
1982	12.38	4.95	—4.79—		2.64
Germany, Fed. Rep. of					
1981	5.49	2.02	0.63	0.32	2.51
1982	4.21	1.39	1.65	0.28	0.89
Netherlands					
1981	8.87	2.04	2.67	0.41	3.75
1982	5.21	1.35	2.32	—0.07	1.61
Sweden					
1981	9.88	5.39	1.47	1.33	1.69
1982	10.11	2.96	2.68	0.55	3.92
Switzerland					
1981	6.40	3.24	2.05	0.40	0.72
1982	5.17	3.67	—1.82—		—0.31
United Kingdom					
1981	10.63 ^d	4.75	1.98	2.34	1.38
1982 ^e	8.33 ^d	1.66	1.68	1.46	3.39

Source: National accounts.

^a Market prices of home produced and imported goods and services available for private and public consumption, investment and export (i.e. the implicit deflator of total final expenditure).

^b Incomes from employment.

^c Gross profits and other trading income and, usually, self-employment income; before provision for depreciation.

^d Including residual (= national accounts' discrepancy): 1981: 0.18 percentage points; 1982: 0.14 points.

^e January–June 1982 over January–June 1981.

factors in the overall rate of inflation can be obtained by breaking down the rise in the price of total final expenditure into its separate components. This is essentially an accounting approach and cannot itself say anything about the causes of inflation. The results of the calculation are shown in table 1.4.8.

The contribution of the various components to the overall rise in prices varies considerably between countries, but the general deceleration of earnings growth is apparent. The share of wages in the total price increase fell sharply in all countries except Finland, the Netherlands and Switzerland. (Switzerland was the only country where the contribution of wages increased significantly.) In Sweden and the United Kingdom the fall in the wage contribution in 1982 was very large (and the wage share of the price increase in both countries was very much smaller than its share in total expenditure) but this was offset to a great extent by the rise in import prices, in turn mainly due to changes in the exchange rate. However, for most of the other countries import prices (in national currency) played a much smaller role in domestic inflation in 1982 and account for a large proportion of the overall deceleration (particularly in Austria, the Federal Republic of Germany, the Netherlands and Switzerland).

Gross trading profits (other factor income) per unit of

final output improved slightly in a number of countries in 1982 and this is reflected in an increased contribution to the rise in prices. When recovery from the present recession eventually gets under way this type of "profit push" inflation will probably continue as enterprises seek to raise their profits from the historically low levels to which they have fallen in the last ten years.

Table 1.4.9 disaggregates the contribution of imports to the rise in prices into its dollar price and exchange rate components; an additional contribution comes from the change in import shares (i.e. the weight of imports in total final expenditure) which is derived here as a residual. The change in the dollar price of imports was significantly negative for all the west European countries in both 1981 and 1982, but this favourable effect was offset by the depreciation of most European currencies against the US dollar. In Belgium the contribution of exchange rate depreciation to the overall rise in prices is much larger than the sum of all the domestic components, while in Sweden, the United Kingdom, the Netherlands and the Federal Republic of Germany it was more than two-fifths. Nevertheless the total contribution of imports to the rise in domestic prices rose between 1981 and 1982 only in Sweden and the United Kingdom. In the latter an increase in import shares also contributed significantly to the rise in final output prices

TABLE 1.4.9

Contribution of imports to the rise in final output prices, 1981-1982
(Percentage change on previous year)

	Total contribution of imports to rise in prices ^a	of which due to:			
		Import prices in national currency	of which: Import prices in US dollars	Change in exchange rate	Change in import penetration ^b
Austria					
1981	3.12	2.91	-3.06	5.97	0.21
1982	-0.25	0.22	-1.79	2.00	-0.47
Belgium					
1981	5.38	5.28	-4.06	9.34	0.10
1982	4.87	4.67	-3.68	8.35	0.20
Finland					
1981	1.84	3.00	-0.92	3.92	-1.16
1982	0.37	0.62	-1.82	2.44	-0.25
France					
1981	3.11	2.96	-1.86	4.82	0.15
1982	2.64	2.61	-1.13	3.74	0.04
Germany, Federal Republic of					
1981	2.51	2.25	-2.64	4.88	0.27
1982	0.89	0.57	-1.12	1.69	0.33
Netherlands					
1981	3.75	5.47	-2.69	8.17	-1.73
1982	1.61	0.96	-1.42	2.38	0.65
Sweden					
1981	1.69	2.43	-1.95	4.38	-0.75
1982	3.92	2.90	-1.89	4.80	1.02
Switzerland					
1981	0.72	1.36	-3.06	4.42	-0.64
1982	-0.31	-0.28	-1.15	0.87	-0.03
United Kingdom					
1981	1.38	1.07	-1.68	2.75	0.31
1982 ^c	3.39	1.78	-1.72	3.50	1.61

Source: As for table 1.4.8 and International Monetary Fund, *International Financial Statistics*, Washington D.C.

^a Last column of previous table.

^b Change in total import costs minus the change in import prices in national currency.

^c January-June 1982 over January-June 1981.

(this reflects the combination of a relatively strong increase in private consumption in 1982 and a high marginal propensity to import).

Last year's *Survey* contained an analysis in which year-to-year changes in consumer prices, for a pooled time-series, cross-section sample of 13 west European countries, were related to changes in consumer prices in the previous year (a proxy for the wage-price spiral), import prices (exchange rate and dollar price components), M_1 money stock (as a proxy for demand pressure) and a measure of demand output relative to its trend (as a measure of the rate of capacity utilization).⁴¹ The analysis of actual developments between 1979 and 1981 attributed the major role in the rise in consumer prices to the impact of past price changes (about 60 per cent) with about 20 per cent due to the depreciation of European currencies against the dollar. The combined effect of money growth and dollar import prices accounted for about 15 per cent of the change.

⁴¹ See *Economic Survey of Europe in 1981*, United Nations, New York 1982, pp.40-43.

The relative contribution of these various factors changed in 1982. Of the total rise in consumer prices of 9.6 per cent,⁴² 80 per cent was due to the effect of past price changes (working through higher wages), 10 per cent to a rise in the local currency price of imports and 5 per cent to the growth in money stock. The contribution of the rise in import prices is the net effect of a 5 per cent fall in the dollar price of imports and an average depreciation of European currencies against the dollar of 12 per cent. The total increase in consumer prices was about 2 percentage points lower than it would have been had output been at its trend value. The *deceleration* in the inflation rate between 1981 and 1982 was largely due, in roughly equal proportions, to the continued fall in capacity utilization and the lower rate of increase in import prices. These two factors account for about 90 per cent of the drop in the inflation rate; the remainder is mainly due to the deceleration in past inflation rates (in 1980 and 1981) with a consequently smaller influence of "inherited inflation" through the wage-cost mechanism.

⁴² Unweighted average increase in consumer prices between January-November 1981 and the same period of 1982. (The weighted average increase was 9.4 per cent.)

1.5 THE DECLINE IN PRODUCTIVITY GROWTH AFTER 1973: A FURTHER LOOK AT EXPLANATORY FACTORS

Introduction

Last year the *Survey* included a study on 'Changing trends in productivity growth'.⁴³ This paper was confined to western Europe and North America: it concentrated, first, on presenting the statistical facts of the productivity slowdown after 1973 and, second, on examining the extent to which this slowdown was associated with the lower rates of output growth which followed the recession of 1974–1975.

The present study, which should be regarded as a progress report on the Secretariat's research into this complex subject, builds on this previous work by extending the analysis of the possible causes of the slowdown to give greater consideration to supply-side factors and, in particular, to the effect of changes in the prices of energy and of raw materials on productivity growth. Some of the introductory and background material in last year's study has been broadened and updated and included in the opening sections below.

In the first section there is a presentation of the statistical facts relating to productivity growth in total economy and its major sub-sectors before and after 1973. This year suggests itself as a watershed as it was the year of the last major cyclical boom before the oil price shock and the recession of 1974/75. The following section tries to establish by means of a formal statistical test whether the break in the trend rate of productivity growth was really significant. The next section examines possible factors behind the slowdown with particular emphasis given to the raw materials and energy price shock, which are widely believed to be a major cause of the slowdown. The final section summarizes the results obtained and puts them into perspective by relating them to the results of the Secretariat's previous study on changing trends in productivity growth. Throughout the study productivity is measured as real gross value added per person employed.⁴⁴

1.5(i) The statistical facts

Table 1.5.1 compares the productivity growth rates for total economy and the major sub-sectors, in 12 countries, for periods before and after 1973. The two end-years 1979 and 1981 are shown in order to bring out the worsening effect of the current recession on productivity performances.

It can be seen that in all sectors⁴⁵ productivity growth was lower in the period after 1973. In virtually all cases

the decline is greater when the comparison is made with 1981 as the end-year.

Taking the period 1973–1981 as the reference period, the average⁴⁶ decline in productivity growth was 2.3 percentage points for the total economy (a drop from a growth rate of 3.9 to 1.6 per cent). In the business sector⁴⁷ the largest decline was, on average, in total manufacturing industry (3 percentage points), the smallest in the private service sector (1.5 percentage points). For the total business sector the decline was particularly marked in Italy (4.3 percentage points), whereas in manufacturing industry the fall in growth rates was most pronounced in Sweden (about 5 points), Italy and Canada (4 percentage points). In contrast, the smallest decline for this sector was in Belgium (1.3 percentage points).

1.5(ii) The statistical significance of the "break" in trend

Since 1973 annual fluctuations in many economic series have increased sharply and this of course makes inter-temporal comparisons particularly sensitive to the choice of end-periods. For this reason some economists have queried whether the fall in productivity growth after 1973 is really as large as is often claimed and, indeed, whether the fall in its trend growth rate is significant.⁴⁸ It is therefore important to deal with this question of whether the break after 1973 is statistically significant. This issue was illustrated for total economy and total manufacturing industry in the *Economic Survey of Europe* in 1981⁴⁹ with the help of charts which plotted the actual productivity levels against the values predicted on the basis of their 1960–1973 trend. The general picture was that after 1973 the productivity levels stayed below the 1960–1973 trend line. Simple log-linear time trends, which allowed for a break in the growth rate of productivity after 1973 were estimated⁵⁰ and the result was that out of 33 equations (11 countries⁵¹ and three sectors – total economy, total manufacturing industry and the total non-manufacturing sector) there were 30 for which the statistical tests indicated the existence of a significant drop in the trend growth rate of productivity after 1973.⁵²

⁴⁶ All averages referred to in this note are unweighted arithmetic averages.

⁴⁷ The business sector is defined as total economy less non-marketed services.

⁴⁸ See, for example, S.J. Prais' comments made at the Royal Economic Society's conference on 'Reasons for the Recent Slowdown in Productivity Growth in Advanced Economies', *The Economic Journal*, Vol.93, March 1983.

⁴⁹ Pages 47–48, Chart 1.1.5.

⁵⁰ The equation for this was as follows:

$$\log P_t = a + b.T + c.D + d.(D.T),$$

where P is productivity, T is time and D is a dummy variable equal to zero for 1960–1973 and to one thereafter.

⁵¹ The standard 12 countries of Table 1.5.1, excluding Canada.

⁵² The exceptions (for the period 1960–1979) were for Belgium and the Netherlands (manufacturing industry) and for Norway, where because of the impact of oil, there was even a significant rise in the productivity growth of the non-manufacturing sector after 1973.

⁴³ Economic Commission for Europe, *Economic Survey of Europe in 1981*, United Nations, New York 1982, pp. 44–60.

⁴⁴ For the Netherlands and Norway employment is defined in terms of man-years and for the United States in terms of "persons engaged in production" (equal to full-time equivalent employees plus the self-employed).

⁴⁵ There are two exceptions to this: in the Netherlands and Norway productivity growth in the private service sector was faster after 1973 if 1979 is used as the reference year, but not if the observations are extended to 1981.

TABLE 1.5.1

Average annual growth rates of productivity (output per person employed)^a in total economy and its major sub-sectors

	Total economy	Business sector ^c	Non agricultural business sector				Other industries ^d	Total service sector	Agriculture forestry fishing ^g	
			Total	Industry ^f	Private services	Manufacturing ^e				
Austria										
1960-73 ^b	4.9	5.6	4.8	5.7	3.9	5.9	4.9	2.9	6.3	
1973-79	2.5	3.0	2.5	3.2	1.5	3.5	2.4	1.1	6.6	
1973-81	2.3	2.7	2.2	2.8	1.5	3.0	2.2	1.1	5.5	
Belgium										
1960-73	4.4	4.7	4.5	6.1	2.7	6.2	5.9	2.6	6.0	
1973-79	2.4	2.7	2.7	4.8	0.7	5.5	3.4	0.7	2.8	
1973-81 ^c	2.4	2.8	2.7	4.6	0.9	4.9	4.0	0.9	3.3	
Finland										
1960-73	4.2	4.7	3.6	4.1	2.9	4.4	3.8	2.5	5.4	
1973-79	3.1	3.6	2.8	3.1	2.6	3.0	3.7	2.1	6.7	
1973-81	2.6	3.0	2.4	2.8	1.9	2.6	3.5	1.6	5.2	
France										
1960-73	4.8	5.2	4.4	5.7	3.0	6.2	4.5	3.0	6.3	
1973-79	2.8	3.1	2.8	3.7	2.1	4.2	2.3	2.0	4.0	
1973-81	2.3	2.6	2.4	3.1	1.8	3.5	1.9	1.8	2.7	
Germany Fed. Rep. of										
1960-73	4.3	4.8	4.3	4.7	3.7	5.0	3.8	3.0	6.4	
1973-79	3.1	3.7	3.5	3.5	3.6	3.6	3.0	2.7	4.0	
1973-81	2.6	3.0	2.8	2.7	3.0	2.7	2.6	2.2	3.9	
Italy										
1960-73	5.7	6.5	5.2	5.7	4.5	6.4	3.1	3.4	7.5	
1973-79	1.9	2.3	1.8	2.2	1.4	2.5	0.1	0.9	3.9	
1973-81	1.8	2.2	1.6	2.0	1.0	2.6	-0.8	0.7	4.4	
Netherlands										
1960-73	4.1	4.2	3.9	6.3	1.7	7.2	3.7	2.2	6.1	
1973-79	2.2	2.5	2.3	2.8	2.0	4.1	-0.6	1.6	5.0	
1973-81	1.6	1.9	1.6	2.4	1.1	3.4	-0.6	0.9	6.3	
Norway										
1960-73	3.4	3.8	3.2	3.6	2.8	3.5	3.9	2.3	4.5	
1973-79	2.4	2.8	2.5	1.3	3.2	0.5	2.2	2.6	4.3	
1973-81	2.0	2.3	2.0	1.2	2.4	0.8	1.4	1.9	4.7	
Sweden										
1960-73 ^d	3.1	4.1	3.5	4.7	2.1	5.3	3.3	1.0	7.5	
1973-79	0.8	1.6	1.6	1.4	2.0	1.0	2.4	0.6	1.0	
1973-81	0.5	1.3	1.2	1.0	1.5	0.5	2.2	0.3	1.6	
United Kingdom										
1960-73	2.6	3.0	2.9	3.5	2.1	3.6	3.2	1.6	6.5	
1973-79	0.5	0.5	0.4	0.6	0.2	0.8	0.0	0.3	2.2	
1973-81	0.5	0.5	0.4	0.4	0.2	0.7	-0.5	0.4	2.9	
Canada										
1960-73	2.7	3.3	2.9	4.1	1.8	4.5	3.6	1.4	4.5	
1973-79	0.5	0.8	0.7	1.1	0.7	1.6	-0.1	0.4	1.8	
1973-81	0.1	0.3	0.1	0.4	0.1	0.7	-0.2	-	3.0	
United States										
1960-73	2.2	2.4	2.3	2.9	1.8	3.5	1.1	1.6	3.5	
1973-79	0.5	0.4	0.3	0.4	0.3	1.2	-2.1	0.5	2.1	
1973-81	0.4	0.3	0.3	0.5	0.2	1.1	-1.4	0.4	2.4	

Sources: National statistics; OECD, *National Accounts*, Paris; Eurostat, *National Accounts*, Luxembourg; and Secretariat estimates.

Note: Data for Norway and the United Kingdom exclude the extraction of crude oil and natural gas.

^a For the Netherlands and Norway employment is defined in terms of man-years and for the United States in terms of "persons engaged" (full-time equivalent employees and self-employed).^b 1964-73.^c 1973-80.^d 1963-73.^e Business sector = total economy less non-marketed services.^f Industry = mining and quarrying, manufacturing, electricity and gas, and construction.^g The data for Austria, France and the Netherlands include mining; the data for Italy include fuel and power products.^h "Other" industries = industry less manufacturing. For Canada includes forestry and fishing.ⁱ Canada: excludes forestry and fishing.

For this note a test for a break in the trend growth rate of productivity was made for six of the nine aggregates shown in Table 1.5.1, namely, total economy, total business sector, manufacturing industry, "other" industries (mining, construction, electricity and gas), the private service sector and agriculture.

The approach chosen in the previous *Survey* may be criticized on the grounds that the regression equations were estimated without a cyclical intensity variable and that therefore part of the estimated slowdown may simply be the normal consequence of a cyclical downturn. However, separating trend from cyclical compo-

TABLE 1.5.2

Summary Table: Testing for a break in the time trend of productivity 1960–1981^a

Country	Sector	Total economy	Total business sector	Manufacturing industry	"Other" industries	Agriculture	Private services
Austria ^b		*	*	*	*		*
Belgium ^c		*	*	**			[*]
Finland		*	*	*			
France		**	*	[*]	*	[*]	[*]
Germany, Fed. Rep. of		*	*	*	*	**	*
Italy		[*]	[*]	[*]	*	[*]	[*]
Netherlands		*	*	*	*		*
Norway		*	*	*	*	[**]	
Sweden ^d		*	*	*	*	*	*
United Kingdom		*	*	*	*		*
United States		*	*	*	*	[**]	*
Canada		*	*	*	*		*

^a Regression equation:

$$\log Pt = b_0 + b_1 T + b_2 \cdot D + b_3 (D.T) + b_4 \cdot u_t + b_5 \cdot (u_t - u_{t-1})$$

where

P = productivity

T = time

D = Dummy variable which is 0 for the years 1960–1973 and 1 thereafter

 u_t = rate of unemployment in year t ^{*} and ^{**} indicate a change in the trend growth rate which is significant at the 1 per cent and 5 per cent levels respectively (two-tailed t-test). A bracket around an asterisk indicates that the unemployment variable was excluded from the regression equation.^b 1964–1981.^c 1960–1980.^d 1963–1981.

nents when the trend and both the amplitude and periodicity of the cycle appear to have changed is virtually impossible. Nevertheless for the purpose of this paper an attempt has been made to correct for cyclical changes by using the rate of unemployment as a cyclical intensity variable.⁵³ The results obtained were not too encouraging. Out of 72 regressions (six aggregates and 12 countries) the concurrent unemployment rate was significant in only 12 cases, and of these only four (all in Italy) had the expected negative sign. This outcome possibly reflects the fact that the unemployment rate itself has shown a positive trend since 1973. The second cyclical term ($u_t - u_{t-1}$) was significant in 29 out of 72 cases (in the United States for all six aggregates) and in all these cases the sign was negative. Given these results the regressions were, in a number of dubious cases, also run without the cyclical terms.

Table 1.5.2 summarizes the results obtained. Keeping in mind the above qualifications and in order to avoid a possible bias in favour of the structural break hypothesis, only coefficients at the 1 per cent or 5 per cent level of significance were retained as indicating a significant slowdown in the growth rate of productivity.

Out of 72 cases there are only 8 for which the dummy on the time variable is not significant. This is the case for the agricultural sector in Austria, Belgium, Finland and Canada, the private service sector in Finland, Norway and Sweden, and "other" industries in Finland.

Finally, for manufacturing industry only, the tests for a structural break were also carried out by using the deviation of output from its trend value as a cyclical

correction term.⁵⁴ For this modified version the tests indicate a significant break (at the 1 per cent level) in 10 of the 12 countries. For Finland the coefficient on the time dummy was only significant at the 10 per cent level. In contrast with the previous equation, no significant change in the trend growth rate was established for Belgium.

1.5(iii) Factors behind the productivity slowdown

The major finding of the previous section is the pervasiveness of the productivity slowdown both among countries and among the major sectors in each economy. In fact, on an even more disaggregated level, namely 18 branches of manufacturing industry, it was found that, for a sample of 10 countries,⁵⁵ and for 145 of a total of 180 observations (10 countries x 18 branches) the productivity growth rate in the period 1973–1978 was significantly lower than in the period 1968–1973.⁵⁶ It seems unlikely that such a widespread phenomenon could have been caused by the accidental interplay of purely country-specific factors. A more plausible and also more promising approach to explaining the productivity slowdown is thus to search for factors which are common to all countries.

From the literature which has grappled with this subject over the last few years it is clear that the issue is highly complex and that the explanations of the causes of the productivity slowdown as well as proposals for reversing it remain controversial. The various factors,

⁵⁴ The trend values of output were estimated by a simple linear time trend, which allowed for a structural break after 1973. The equation estimated was:

$$\log Q_t = a + b.T + c.(D.T) + d.D$$

where Q is output and all the other variables have the same meaning as above.

Note that by virtue of this procedure, the cyclical term is orthogonal to the time variable in the fitted log-linear productivity equation, implying zero correlation between them.

⁵⁵ The standard twelve countries in this note, excluding Austria and Canada.

⁵⁶ See *Economic Survey of Europe in 1981*, p.57.

⁵³ The equation estimated is given in table 1.5.2. The purpose of u_t is to adjust for the generally observed fact that the level of productivity is lower when resources are not fully utilized, and the ($u_t - u_{t-1}$) variable is supposed to adjust for lower (higher) productivity relative to trend when the economy is moving into (out of) recession. The expected sign for both cyclical variables is therefore negative. This approach was recently used by P. Clark, 'A new estimate of potential GNP', in: *Hearings before the Joint Economic Committee, Congress of the United States, 95th Congress, First Session, Part I*, pp. 39–54, Washington D.C., 1977.

which at one time or another have been suggested as the principal causes, encompass virtually all aspects of modern societies and occupy an important position in the broader macro-economic controversies on the causes and cures of stagflation.

Standard growth accounting, as developed in the United States by Denison and Kendrick,⁵⁷ has so far failed to explain the major portion of the slowdown. In fact, it may even be suggested that the problem became a real challenge once the inadequacy of the growth accounting approach to cope with it was established.⁵⁸

The decline in productivity growth was much too sudden and too sharp in order to be explainable by the factors entering the growth accounting framework, which is more likely to be suitable for the analysis of gradual changes. This leaves two major basic approaches to the problem, which are nevertheless closely interconnected. The first tries to establish a direct link between the slowdown and the macroeconomic disturbances that occurred during the 1970s (e.g. the end of Bretton-Woods, the industrial raw materials and energy price shock, persistently low growth of demand, inflation, low investment activity, etc.). A second approach sees the productivity slowdown in a much wider historical perspective. Starting from the favourable factors which contributed to the rapid rates of economic growth which occurred between the end of World War II and the beginning of the 1970s, this approach suggests that the phasing out of factors which in many respects were exceptional would have led to a decline in productivity growth in the near future anyway. For the advocates of this view the macroeconomic disturbances of the early 1970s only accentuated basic impediments to economic growth that had gradually been building up in the 1960s in western industrial societies.⁵⁹ Hence the major thrust of this approach has been, in addition to isolating the variables impinging on the proximate sources of growth, to identify the broader factors and conditions that stimulate or hinder economic activity.⁶⁰ However, even if the impact on productivity growth of many of these "broad" systemic factors cannot be denied, it is often difficult to assess their contribution in other than purely qualitative terms. Much of the arguments, especially with regard to the link between the rise of the welfare state and the slowdown, remain therefore speculative,⁶¹ though not totally implausible.

⁵⁷ See, E. Denison, 'Explanations of Declining Productivity Growth', *Survey of Current Business*, August 1979, Vol. 59, No. 8, Part II, pp. 1-23, and J. Kendrick, 'Survey of the Factors Contributing to the Decline in US Productivity Growth', *The Decline in Productivity Growth*, Conference Series No. 22, Federal Reserve Bank of Boston, pp. 1-21.

⁵⁸ For a general critique see also R. Nelson, 'Research on Productivity Growth and Productivity Differences: Dead Ends and New Departures', *Journal of Economic Literature*, Vol. XIX (September 1981), pp. 1029-1064.

⁵⁹ See, for example, Assar Lindbeck, 'The recent slowdown of productivity growth', who employs the notion of "an emerging 'arteriosclerosis' of the western economies", and H. Giersch and F. Wolter, 'Towards an explanation of the Productivity Slowdown: An Acceleration-Deceleration Hypothesis', who argue that the slowdown in productivity growth "reflects the erosion of many of the favourable conditions which contributed to the long sprint of economic development after World War II". Both of these papers were prepared for the Royal Economic Society Conference on 'Reasons for the Recent Slowdown in Productivity Growth in Advanced Economies' (London, July 1982) and are published in *The Economic Journal* Vol. 93, March 1983. In a similar vein it has been argued - in the case of the United Kingdom - that the slowdown is nothing "but a reversion to normal after a period of temporary acceleration, whose stimulus, a lower real cost of capital, has now been fully absorbed into the system". See J.R. Sargent, 'Productivity and profits in UK manufacturing', *Midland Bank Review*, Autumn 1979, p.13.

⁶⁰ See also R. Nelson, *op.cit.*, p.1053.

⁶¹ See, for example, M. Abramowitz, 'Welfare Quandaries and Productivity Concerns', *American Economic Review*, Vol. 71 (1981) No. 1, pp. 1-17.

Anyway, it is clear that even though the gradual erosion of the earlier "favourable" or "exceptional" conditions has probably contributed to the lower productivity growth after 1973, the suddenness and pervasiveness of this phenomenon across individual countries suggests that the major factors behind the slowdown must be sought in the macroeconomic disturbances of the 1970s.

In the study carried out by the Secretariat last year⁶² the major focus was on examining the extent to which the slowdown was associated with lower rates of demand growth after 1973. Before turning to the more detailed examination of the role played by the rise in the price of energy and raw materials, which is the main focus of the present paper, two other possible factors are examined, namely, the role of factor reallocations and the effects of the slowdown of capital formation in the 1970s.

(a) The importance of factor reallocation

Among the structural changes that stand out in modern industrialized societies are the shifts of employment from agriculture to the non-agricultural sector on the one hand and from industry to services on the other hand. In fact, the latter shift has given rise lately to discussions about the economic implications of de-industrialization.

Given the different levels and growth rates of productivity in these sub-sectors of the economy, it is interesting to measure the extent to which these shifts of resources have contributed to the observed change in productivity growth. (The shifts out of agriculture and into services have both a trend and a cyclical component but no attempt has been made to separate the two in the following calculation.)

This can be done by using a simple normalization technique, which separates the productivity change in the total economy (or any other aggregate) into three components, namely:

- the productivity change that would have occurred in a given period if the structure of employment had remained the same as in the initial year (i.e. the change due only to intra-sectoral changes in productivity);
- the productivity change attributable to changes in the distribution of employment between sectors with different productivity levels (i.e. the shift effect);
- the interaction or joint effect of the previous two components (this arises because in an additive decomposition the total change cannot be allocated exactly among its components).⁶³

Table 1.5.3 shows the results of this exercise when the economy is sub-divided into the agricultural sector and the non-agricultural sector. Taking the arithmetic average of each factor, it can be seen that of the average

⁶² Economic Commission for Europe, *Economic Survey of Europe in 1981*, United Nations, New York, 1982, pp. 44-60.

⁶³ The normalization formula is as follows:

$$\frac{P_t - P_0}{P_0} = \frac{\sum_{i=1}^2 (P_{it} - P_{i0})e_{i0}}{P_0} + \frac{\sum_{i=1}^2 (e_{it} - e_{i0})P_{i0}}{P_0} + \frac{\sum_{i=1}^2 (P_{it} - P_{i0})(e_{it} - e_{i0})}{P_0}$$

where P_{it} denotes the productivity level in sector i ($i = 1, 2$) and e_{it} the sectoral shares in total employment in period t . The first component on the right-hand side is the intra-sectoral productivity effect and the second term is the shift effect. The third component shows the joint or interaction effect of the first two components.

TABLE 1.5.3

Decomposition of the productivity change in total economy^a
(Average annual rates of change)

Country	A 1960-1973				B 1973-1981				C = B - A Differences			
	Total change	Intra- sectoral effect	Shift effect	Inter- action effect	Total change	Intra- sectoral effect	Shift effect	Inter- action effect	Total change	Intra- sectoral effect	Shift effect	Inter- action effect
Austria	4.88 ^b	4.20	0.53	0.16	2.31	2.10	0.22	-0.01	-2.57	-2.10	-0.31	-0.17
Belgium	4.35	4.28	0.09	-0.02	2.36 ^c	2.35	0.01	-	-1.99	-1.93	-0.08	0.02
Finland	4.19	3.62	0.58	-0.01	2.59	2.51	0.18	-0.10	-1.60	-1.11	-0.40	-0.09
France	4.80	4.31	0.38	0.11	2.33	2.20	0.11	0.01	-2.47	-2.11	-0.27	-0.10
Germany, Federal Republic of	4.35	3.97	0.28	0.10	2.55	2.45	0.10	0.01	-1.80	-1.52	-0.18	-0.09
Italy	5.71	4.59	0.76	0.36	1.80	1.49	0.33	-0.02	-3.91	-3.10	-0.43	-0.38
Netherlands	4.09	3.94	0.14	0.01	1.64	1.64	0.04	-0.04	-2.45	-2.30	-0.10	-0.05
Norway	3.37	2.93	0.38	0.07	1.95	1.84	0.14	-0.02	-1.42	-1.09	-0.24	-0.09
Sweden	3.14 ^d	2.92	0.33	-0.12	0.50	0.46	0.05	-0.01	-2.64	-2.46	-0.28	0.11
United Kingdom	2.60	2.60	0.05	-0.05	0.46	0.46	-	-	-2.14	-2.14	-0.05	0.05
United States	2.21	2.13	0.08	-0.01	0.39	0.38	0.02	-0.01	-1.82	-1.75	-0.06	-
Canada	2.70	2.42	0.26	0.02	0.08	0.04	0.06	-0.02	-2.62	-2.38	-0.20	-0.04

Note: Small differences between total change and sum of components are due to rounding.

^a The total economy was divided into two sub-sectors, namely the agricultural sector (including forestry and fishing) and the non-agricultural sector. For Canada the agricultural sector excludes forestry and fishing.

^b 1964-1973.

^c 1973-1980.

^d 1963-1973.

productivity growth of 3.9 per cent growth in the period 1960-1973 about 0.3 percentage points are accounted for by the shift of employment to the non-agricultural sector of the economy. This is a somewhat biased figure, however, as the shift effect was of very limited importance in Belgium, the Netherlands, the United Kingdom and the United States. For the remaining eight countries it accounts for roughly 0.3 to 0.5 percentage points of the productivity increase. For Italy the shift effect was highest in absolute terms - between 0.8 and 1.0 percentage points (for the higher figure half of the large interaction effect has been allocated to the shift effect).

In the second period, 1973-1981, the contribution of the employment shift, in the group of eight countries where it was of relative importance in the first period, fell on average to 0.1 to 0.2 percentage points.

Calculating the differences between the three components in the two sub-periods, it is found that the slowing down in the movement of employment from the agricultural to the non-agricultural sector accounts on average for some 0.2-0.3 percentage points of the decline in productivity growth (the higher figure is obtained when half of the interaction effect is allocated to the shift effect). The shift effect has contributed virtually nothing to an explanation of the decline in productivity growth in Belgium, the United Kingdom and the United States. In contrast, its contribution was above average in Finland (0.4 percentage points), Austria (0.3-0.4 points) and Italy (0.4-0.6 points), all countries where the size of agricultural employment is still relatively high.

In a second calculation the non-agricultural sector was further sub-divided into the industrial and the service sectors. Table 1.5.4 shows the net effects on total productivity growth of the employment shifts between these three sectors of the economy. The general feature is for a smaller shift effect in the period after 1973. Note that the interaction effect is fairly high and negative in a number of countries in one of the two sub-periods. This suggests a fairly low degree of correlation between increases in intra-sectoral productivity levels and in-

creases in employment. In order not to obfuscate the analysis, half of the interaction effect can be allocated to the shift effect and half to the intra-sectoral effect.⁶⁴ If this is done, the result is that the shift effect accounts on average for 0.3 percentage points of the decline in productivity growth. This is about the same figure as for the shift between the agricultural and the non-agricultural sector. In contrast with the finding above, the shift effect shows a higher negative impact for this particular sectoral breakdown in Belgium, the Netherlands, France and Canada. For the other countries the results do not change very much.

The general conclusion therefore is that the importance of the *shift factor* as an explanation of the productivity slowdown varies a lot between countries. For the United Kingdom and the United States the impact is negligible (about 4 to 6 per cent of the total slowdown, if half of the interaction effect is allocated to the shift effect); elsewhere it is somewhat higher: Finland stands out with the shift factor accounting for about 30 per cent of the slowdown, whereas for the remaining countries the contribution ranges between 10 and 15 per cent.

It can be argued that the above calculations tend to *under-estimate* the importance of factor reallocations for total productivity growth because first, they are made at a very aggregate level and second, because they neglect the importance of capital reallocations. A study of Swedish manufacturing industry concluded that at least 25 per cent of labour productivity growth in the 1960s was the direct result of shifts of resources, labour and capital, between various manufacturing branches.⁶⁵

Though the importance of resource shifts at the micro level appear to be intuitively plausible, it is hard to find

⁶⁴ This is arbitrary, but there is no objective solution to this basic index number problem.

⁶⁵ B. Carlsson, "Den tekniska utvecklingens innehåll och betydelse för den ekonomisk tillväxten". In *Företagen i marknadsekonomi*, Stockholm: Industriens Utredningsinstitut, 1979, quoted by Assar Lindbeck, *loc.cit.*

TABLE 1.5.4

Decomposition of the productivity change in total economy^a
(Average annual rates of change)

Country	A 1960-1973				B 1973-1981				C = B - A Differences			
	Total change	Intra-sectoral effect	Shift effect	Interaction effect	Total change	Intra-sectoral effect	Shift effect	Interaction effect	Total change	Intra-sectoral effect	Shift effect	Interaction effect
Austria	4.88 ^b	4.16	0.60	0.12	2.31	2.10	0.31	-0.09	-2.57	-2.06	-0.29	-0.21
Belgium	4.35	4.22	0.32	-0.19	2.36 ^c	2.56	0.09	-0.28	-1.99	-1.66	-0.23	-0.09
Finland	4.19	3.66	0.58	-0.05	2.59	2.60	0.14	-0.14	-1.60	-1.06	-0.44	-0.09
France	4.80	4.35	0.41	0.05	2.33	2.39	0.02	-0.08	-2.47	-1.96	-0.39	-0.13
Germany, Federal Republic of	4.35	4.01	0.30	0.04	2.55	2.55	0.03	-0.03	-1.80	-1.46	-0.27	-0.07
Italy	5.71	4.59	0.81	0.30	1.80	1.55	0.32	-0.07	-3.91	-3.04	-0.49	-0.37
Netherlands	4.09	3.99	0.35	-0.25	1.64	1.78	-0.01	-0.13	-2.45	-2.21	-0.36	0.12
Norway	3.37	2.92	0.41	0.04	1.95	1.81	0.15	-	-1.42	-1.11	-0.26	-0.04
Sweden	3.14 ^d	3.11	0.41	-0.37	0.50	0.67	-0.11	-0.06	-2.64	-2.44	-0.52	0.31
United Kingdom	2.60	2.61	0.13	-0.14	0.46	0.48	-0.01	-	-2.14	-2.13	-0.14	0.14
United States	2.21	2.17	0.08	-0.04	0.39	0.46	-0.05	-0.02	-1.82	-1.71	-0.13	0.02
Canada	2.70	2.62	0.26	-0.18	0.08	0.24	-0.12	-0.04	-2.62	-2.38	-0.38	0.14

^a Total economy was divided into three sub-sectors: (i) Agriculture, forestry, fishing; (ii) Total industry; (iii) Total services sector. For Canada agriculture excludes forestry and fishing.

^b 1964-1973.

^c 1971-1980.

^d 1963-1973.

empirical evidence that these shifts have slowed down significantly after 1973.

At a semi-disaggregated level, i.e. the reallocation of labour among 18 branches of manufacturing industry, this hypothesis is, in general, not confirmed. It was found that in seven out of 10 countries⁶⁶ the shift effect had increased in the period 1973-1978 as compared with 1968-1973.⁶⁷ Only in the Federal Republic of Germany (30 per cent) and Italy (16 per cent) does the shift effect play a relatively significant role in the decline in productivity growth.⁶⁸

However, it still would appear to be desirable to take the role of capital explicitly into account when analyzing the importance of factor reallocations for productivity growth. This is so because to the extent that average productivity levels between sectors differ because of different levels of capital intensity, workers moving into high (low) average productivity sectors have high (low) average productivity only because they have more (less) capital to work with.⁶⁹ Assuming a correct measurement of capital services this would imply that the shift effect as measured above is only a mirror image of the changes in the overall rate of capital-labour substitution. It is therefore useful to consider directly the effects of capital-labour substitution on productivity growth.

(b) The role of capital-labour substitution

Attempts to assess the impact of changes in capital-intensity on the productivity slowdown have generally failed to assign a significant role to this factor. Following the standard growth accounting framework the contribution of capital-intensity changes to labour productivity

growth is given as the product of the former variable and the output elasticity of capital.⁷⁰

Table 1.5.5 updates a similar calculation made in the *Economic Survey of Europe in 1981*⁷¹ for manufacturing industry in 8 countries. It can be seen from the first two columns that most countries experienced a marked decline in the growth of their gross capital stocks after 1973. For Norway the decline is somewhat less pronounced than for the other countries, and in marked contrast there was an acceleration of capital stock growth in the United States. There were particularly large declines in the growth rates for the Federal Republic of Germany (4.5 percentage points) and Italy (3.6 percentage points).

Given the concomitant changes in employment, it can be seen from columns 4 and 5 of Table 1.5.5 that the growth of capital intensity accelerated in the second sub-period in Canada, France, Norway, the United Kingdom and the United States; it remained virtually unchanged in Austria, and decelerated in the other four countries.

Column 8 gives the estimated contribution of the change in the growth of capital intensity to the change (decline) in productivity growth. It can be seen that in only four of the 10 countries in the present sample does the capital intensity variable actually contribute to an explanation of the productivity slowdown. For Finland and Sweden this factor is relatively small and accounts for 0.3 percentage points of the total slowdown of 1.8 and 4.7 percentage points, respectively. In contrast, the

⁷⁰ This approach assumes a production function of the form $Y = L^x K^{(1-x)} e^{rt}$

where L and K stand for the input of labour and capital respectively, and x and $(1-x)$ denote the respective elasticities of output with respect to changes in inputs. r denotes the rate of technical progress or the famous "measure of ignorance". Labour productivity growth can be expressed as the sum of the growth rate of capital intensity, weighted by the elasticity of output with respect to capital, and the "residual" r , i.e.

$$(Y/L) = (1-x)(K/L) + r.$$

⁷¹ P.51, Table 1.1.30.

⁶⁶ The standard 12 countries, excluding Austria and Canada.

⁶⁷ *Economic Survey of Europe in 1981*, Table 1.1.34, p.58.

⁶⁸ The above percentages include half of the interaction effect.

⁶⁹ M.N. Bailey, 'Productivity and the Services of Capital and Labour', *Brookings Paper on Economic Activity*, No. 1, 1981, pp.24-25.

TABLE 1.5.5

Capital intensity (K/L) and productivity (P) in manufacturing industry^a
(Average annual rates of change)

	1960-1973 K	1973-1981 K	S ^b	1960-1973 (K/L)	1973-1981 (K/L)	1960-1973 S . (K/L)	1973-1981 S . (K/L)	Contribution to slowdown	Actual slowdown ^c
Country	1	2	3	4	5	6 = 4 × 3	7 = 5 × 3	8 = 7 - 6	9
Austria ^d	5.0	4.0	0.355	4.8	4.7	1.7	1.7	-	-2.8
Finland	6.0	3.6	0.400	3.7	3.0	1.5	1.2	-0.3	-1.8
France ^d	5.9	4.0	0.351	4.8	5.5	1.7	1.9	+0.2	-2.7
Germany, Federal Republic of	7.1	2.6	0.341	6.8	4.1	2.3	1.4	-0.9	-2.3
Italy	5.9	2.3	0.372	5.0	2.3	1.9	0.9	-1.0	-3.8
Norway ^{d,e}	4.9	4.4	0.310	3.9	4.5	1.2	1.4	+0.2	-2.3
Sweden	4.6	3.3	0.286	5.1	4.1	1.5	1.2	-0.3	-4.7
United Kingdom	3.5	2.4	0.254	4.0	5.7	1.0	1.4	0.4	-2.9
United States	3.1	4.2	0.386	1.6	4.1	0.6	1.6	1.0	-2.4
Canada ^d	4.9	3.9	0.394	2.7	3.1	1.1	1.2	0.1	-3.8

^a K = real gross capital stock (average annual rate of growth) and K/L = capital-labour ratio (average annual rate of growth).

^b Output elasticity of capital.

^c Differences in compound growth rates of productivity (1973-1981 and 1960-1973).

^d The growth rates for the first sub-period refer to: 1964-1973: Austria; 1962-1973: France, Norway; 1961-1973: Canada.

^e The data for Norway refer to mining, manufacturing and construction, but exclude activities related to the extraction of crude oil and natural gas.

contribution is much larger for the Federal Republic (0.9 percentage points of the total slowdown of 2.3 points) and Italy (1 percentage point of 3.8 points).

The generally small or insignificant contributions of lower capital stock growth to the fall in productivity growth have led economists to speculate as to whether the *measured* capital stock for the period after 1973 overstates the stock that firms might actually find economical to use.⁷² This argument is based on the presumption that the drastic increase in the relative price of energy after 1973 has reduced the profitability of energy intensive activities and thus rendered part of the capital stock obsolete before the end of its "normal" useful life. As the standard official procedures for the compilation of capital stock data are based on fixed patterns of retirement and depreciation, an immediate consequence would be that the official capital stock data over-estimate the economically useful capital stock. This may also happen to the extent that fixed investment after 1973 may have been directed more to increased energy efficiency of production rather than an increase in the total capacity to produce goods.

Obviously a correction of official capital stock data according to revised retirement and depreciation rates would be a major task, well beyond the resources available for the present paper. But in order to demonstrate what is involved in quantitative terms the following rough calculation can be made. Assume that the *economically useful* capital stock stopped growing in 1973 but employment growth remained the same as between 1973-1981: how would this modify the above calculations?

Table 1.5.6 contains the relevant data for an answer to this question. Column 1 shows the actual contribution of capital-labour substitution to productivity growth in the period 1960-1973. The second column shows the contribution estimated according to the hypothesis in the previous paragraph. The third and fourth columns show the "implied" and the actual decline in productivity growth. It can be seen that under this hypothesis the changes in capital intensity would account for 50 per cent and more of the decline in productivity growth in five of the 10 countries. In Finland nearly all of the decline

could be so explained and about 75 per cent in the Federal Republic of Germany. At the lower end of the scale are the United Kingdom (3 per cent) and the United States (25 per cent). These contributions of capital obsolescence to the productivity slowdown should be seen as upper bounds on the basis of a very unrealistic hypothesis. It is therefore unlikely that its contribution could be as large in practice, but nevertheless the possibility of a significant loss in productivity growth from this source cannot be dismissed.

Furthermore, the obsolescence hypothesis overlooks the fact that a rise in the relative price of energy will cause a decline in the relative price of labour and hence increase the useful life of labour intensive capital goods.⁷³ The net effect of these shifts is far from clear. In addition, it may be argued that in a world where factors are not substitutable in the short run, the effect of a shift in the relative price of energy on capital-labour substitution is more likely to be spread over a relatively long time span. This implies that capital is not scrapped immediately although, at best, its life time will be shorter than expected. There is therefore no change in the measured productivity of existing capital until it is retired and only the new additions to the capital stock, which substitute labour for energy, will lead to a decline in productivity growth.⁷⁴ However, the obsolescence hypothesis does appear to be intuitively plausible. A rise in the price of intermediate inputs relative to final prices must imply a fall in domestic factor income and therefore in value added per person employed. Insofar as this falls on gross profits instead of wage income there is bound to be a fall in the profitability of the existing capital stock. The next section explores this question in greater detail.

(c) *The effect of changes in the relative price of energy and intermediate goods*

It was argued above that given the pervasive phenomenon of the productivity slowdown the most promising explanation of the decline in productivity growth after 1973 lay in the search for common factors which might

⁷² See, for example, M.N. Bailey, 'Productivity and the Services of Capital and Labour', *Brookings Papers on Economic Activity*, No. 1, 1981, pp. 1-65.

⁷³ See, for example, F.W. Gunning, M. Osterrieth, F. Waelbroeck: "The price of energy and potential growth of developed countries", *European Economic Review*, Vol. 7, (1975), pp. 35-62, especially p.40.

⁷⁴ See the comments of Robert Solow on the above-cited paper of M.N. Bailey, *op.cit.*, pp. 60-61.

TABLE 1.5.6

Capital intensity (K/L) and productivity (P) in manufacturing industry: the zero growth of capital stock hypothesis

Country	Contribution to productivity growth 1960-1973 ^a	Hypothetical contribution to productivity growth 1973-1981 ^b	Differences	Hypothetical contribution to the productivity slowdown
	(1)	(2)	(3) = (2) - (1)	(per cent)
Austria	1.7	0.2	-1.5	53.6
Finland	1.5	-0.2	-1.7	94.4
France	1.7	0.5	-1.2	44.4
Germany, Fed. Rep. of	2.3	0.5	-1.8	78.3
Italy	1.9	—	-1.9	50.0
Norway	1.2	—	-1.2	52.2
Sweden	1.5	0.2	-1.3	28.0
United Kingdom	1.0	0.9	-0.1	3.4
United States	0.6	—	-0.6	25.0
Canada	1.1	-0.3	-1.4	36.8

Note: The footnotes to table 1.5.5 also apply here.

^a Calculated as the product of the rate of change of capital intensity and the output elasticity of capital (see also table 1.5.5).

^b Calculated on the assumption that the economically useful capital stock stayed at its 1973 level.

have slowed down the pace of economic activity in all the industrialized countries. As the beginning of the slowdown is generally located around the year 1973, it seems obvious to see whether the productivity slowdown is connected with the two price shocks that occurred in the years 1972-1974, namely, the sharp acceleration in manufactured raw material prices in 1972-1973 and the ensuing oil price shock in 1973-1974.

In general, the possible impact of the energy price rise has received much greater attention than the possible effects of the rise in raw material prices, which have only recently been claimed to be a significant factor behind the productivity slowdown.^{75, 76}

In a more general way it seems appropriate to view these attempts in the wider context of the recent concern of economic research with the modelling of price shocks.⁷⁷ It is certainly justified to say that the empirical results of the measurement of the short-run and long-run repercussions of (energy) price shocks are still very controversial, as are the underlying theoretical models themselves.⁷⁸ This may also partly be a reflection of the fact that the tools economists have developed so far to analyse and quantify system changes are probably more appropriate for measuring the impact of small variable changes (marginal analysis) rather than large changes such as the price shocks that occurred during the 1970s. Briefly, the general way in which these price shocks may affect the level and degree of change of economic activity is supposed to be as follows: given a rise in the relative price of energy or any other material input, the price of

final products will be pushed up, entailing a fall in demand and output. At the same time, the rising cost of intermediate goods also leads to a "terms-of-trade" loss on the side of domestic incomes, thus reducing value added. Given real wage stickiness the consequence is a profit squeeze, which in turn may affect future capital accumulation.

Furthermore, the change in the relative price of intermediate inputs (energy) may render part of the production processes unprofitable and thus reduce the level of optimal and actual use of existing capacities. Depending on the technical substitution possibilities firms may also decide to switch to other production methods in order to reduce the costs of energy and/or material inputs per unit of output. In addition, the inflationary push given to product prices is likely to have a deflationary effect on demand insofar as governments are likely to adopt fiscal and monetary policies which will reduce demand and the level of industrial activity.

There are thus basically two channels through which changes in the relative price of raw materials and energy may affect output and productivity: the first, the direct channel, operates on the supply side via the "terms-of-trade" loss and the induced substitution process. The second consists of the derived effects of higher input prices on final demand. It is only with the first that attempts to account for the contribution of the raw material and energy price shocks are concerned.

However, before the possible impact of changes in the relative price of energy or, more generally, of intermediate goods, is explored further, it will be useful to examine the price developments that actually occurred in the 1960s and 1970s.

A comparison of the price shocks

Changes in world market prices. Changes in world market prices of raw materials are shown in Table 1.5.7. The following picture emerges: from 1960 to 1972 raw material (including energy) prices rose at an annual rate of about 2 per cent, whereas from 1972 to 1981 the average rate of change was about 23 per cent.

In 1973 industrial raw materials and food rose by about 55 per cent, and energy raw materials by about half that rate (29 per cent). The year 1974 witnessed the oil

⁷⁵ See M. Bruno, *Raw materials, profits and the productivity slowdown*, Working Paper No. 660R, National Bureau of Economic Research, Cambridge, Mass., December 1981.

⁷⁶ For an early assessment of the dampening effect of large changes of commodity prices on the level of economic activity see: N. Kaldor, 'Inflation and Recession in the World Economy', *The Economic Journal*, December 1971, Vol. 86, pp. 708-714.

⁷⁷ See, for example, M. Bruno and Jeffrey Sachs, 'Supply versus Demand Approaches to the Problem of Stagflation', in H. Giersch (editor) *Macroeconomic Policies for Growth and Stability*, Kiel-Tübingen, 1981, and for a brief review: P.J.K. Kouri, 'Macroeconomics of Stagflation and Flexible Exchange Rates', *American Economic Review*, Papers and Proceedings, Vol. 72, No. 2, May 1982, pp. 390-394.

⁷⁸ See, for example, the comments of F. Tobin and E. Malinvaud on the above-mentioned paper by M. Bruno and J.F. Sachs, *loc.cit.*

TABLE 1.5.7

Changes in world market prices of raw materials^a

	Total	Total excluding energy	Industrial raw materials	Energy raw materials	Food
<i>A. Compound growth rates</i>					
1960-1972	2.2	..	..	..	..
1960-1973	4.9	..	..	..	..
1966-1972	3.7	1.7	0.3	7.2	4.0
1966-1973	8.7	8.0	6.8	10.0	9.9
1972-1979	22.8	13.3	13.1	31.7	13.5
1973-1979	19.6	7.5	7.2	32.1	8.0
1972-1981	23.4	9.9	9.9	32.8	9.9
1973-1981	21.1	5.3	5.2	33.3	5.5
<i>B. Year-to-year growth rates</i>					
1973/72	44.2	54.7	55.8	28.9	53.0
1974/73	99.8	30.6	19.0	219.8	48.1
1975/74	-4.1	-14.5	-11.7	3.2	-18.0
1979/78	31.5	22.0	31.0	36.9	11.0
1980/79	48.0	13.7	12.5	65.1	15.4
1981/80	6.5	-13.9	-12.4	13.6	-16.2

Sources: *Interconomics*, September/October 1980 and various other issues; *Bulletin de la Banque nationale de Belgique* (various issues); *Monatsberichte der Deutschen Bundesbank*, various issues; and own calculations by the Secretariat.

^a HWWA raw material price index, published by the HWWA-Institut für Wirtschaftsforschung, Hamburg.

TABLE 1.5.8

Changes in world export prices of primary commodities and non-ferrous base metals^a

Primary commodities						
	Total	Total excluding crude petroleum	Agricultural non-food	Food	Crude petroleum	Non-ferrous base metals
<i>A. Compound growth rates</i>						
1950-1960	-1.0	-1.1 ^b	-1.5	-0.7	0.6	2.2
1960-1972	2.3	2.2 ^b	0.9	3.0	2.7	3.2
1960-1973	5.3	5.4 ^b	4.6	6.2	5.0	5.8
1972-1979	22.1	14.0	11.0	13.2	33.9	9.5
1973-1979	18.0	8.6	7.9	7.7	33.5	7.9
1979-1981	23.5	2.9	-1.6	1.8	38.3	-1.2
<i>B. Year-to-year growth rates</i>						
1973/72	50.0	52.7	62.9	52.6	36.4	43.2
1974/73	82.5	27.4	18.8	27.6	233.3	23.6
1975/74	-3.2	-6.5	-16.7	-9.9	-	-23.7
1979/78	29.4	14.0	20.5	12.4	45.3	32.5
1980/79	46.8	13.8	5.0	16.9	73.4	11.4
1981/80	4.0	-7.0	-7.8	88.7	10.2	-12.4

Sources: United Nations, *Monthly Bulletin of Statistics*, New York; and United Nations, *Methods Used in Compiling the United Nations Price Indices for Basic Commodities in International Trade*; Statistical Papers, Series M, No. 29, Rev. 2.

^a UN index.

^b Secretariat estimate.

price shock, with a rise in the price of energy raw materials of 220 per cent.

The basic feature was thus that the initial upsurge in the price of industrial raw materials and food set the stage for an even bigger oil price explosion. The price development after these two shocks differs markedly for the two groups of raw materials.

From 1974 to 1978, energy raw material prices rose at an annual rate of 5 per cent, while industrial raw material prices declined in the same period at an annual rate of 0.6 per cent. In 1979 the second oil price shock got under way: prices in that year rose by 37 per cent, followed by an even bigger increase in 1980 of 65 per cent. In contrast, industrial raw material prices rose markedly only in 1979, at about the same rate as energy (31 per

cent); but the following rise in 1980, of 12.5 per cent, was almost completely reversed in 1981. Virtually the same pattern of development is shown by the UN index (Table 1.5.8).⁷⁹

Tables 1.5.7 and 1.5.8 suggest that it makes an important difference whether the analysis of price developments of raw materials is based on an index including or excluding energy. In fact, given the presumption that the relative weights of these two product groups in world price indices do not correspond to their relative importance in the cost structure of firms,

⁷⁹ The HWWA index in table 1.5.7 weights world market prices by imports into industrial market economies; the UN index uses world exports as weights.

TABLE 1.5.9

Changes in the "real" price of raw materials

A = HWWA index of raw material prices deflated by the implicit price index of GDP for "Total OECD"

B = HWWA index of raw material prices deflated by the UN unit value index of manufactured goods exports of developed market economies

Period	Total		Total excluding energy		Industrial raw materials		Energy materials	
	A	B	A	B	A	B	A	B
<i>A. Compound growth rates</i>								
1960-1972	-1.8	-0.3	..	..	..	..	..	..
1960-1973	0.1	1.2	..	..	..	..	..	..
1972-1979	11.1	9.0	..	..	..	..	..	..
1973-1979	8.7	6.9	..	..	..	..	..	..
1972-1981	13.9 ^a	11.9	..	..	..	..	..	..
1973-1981	12.2 ^a	10.6	..	..	..	..	..	..
1966-1972	-1.6	-0.3	-3.5	-2.2	-4.8	-3.6	1.7	3.1
1966-1973	2.0	2.7	1.3	2.0	0.2	0.9	3.3	4.0
1972-1979	11.1	9.0	2.4	0.5	2.3	0.4	19.1	16.8
1973-1979	8.7	6.9	-2.3	-3.9	-2.5	-4.1	20.1	18.1
1972-1981	13.9 ^a	11.9	2.7 ^a	-0.4	2.4 ^a	-0.4	22.7 ^a	20.4
1973-1981	12.2 ^a	10.6	-1.3 ^a	-3.7	-1.7 ^a	-3.9	24.1 ^a	21.8
<i>B. Year-to-year growth rates</i>								
1973/72	26.4	22.4	35.7	31.4	36.7	32.4	13.2	9.5
1974/73	81.4	63.9	18.6	7.2	8.1	-2.4	190.4	162.4
1975/74	-14.7	-14.7	-24.0	-24.0	-21.4	-21.4	-8.2	-8.2
1979/78	18.9	15.0	10.3	6.7	18.3	14.5	23.7	19.6
1980/79	36.1	33.9	4.6	2.9	3.5	1.9	51.7	49.3
1981/80	..	12.2	..	-9.3	..	-7.8	..	19.7

Sources: As for tables 1.5.7 and 1.5.8, OECD, *National accounts*, Paris; UNCTAD *Monthly Commodity Price Bulletin*, Supplement: Monthly and annual price series, 1960-1980 (for unit value index).^a 1973-1980.

it seems clear that a distinction between them should be made in the analysis made below.

Table 1.5.9 shows the development of the "real" prices of raw materials. For the sake of simplicity, and given the similarity of the two world price indices, the HWWA index is used here. For purposes of comparison, the "real" price of raw materials was calculated by using two different deflators, first the implied GDP deflator for "total OECD", and second, the UN unit value index of manufactured goods exports of developed market economies. However, it can be seen that the differences between the two price series are in general fairly small. The following remarks are based on changes in prices deflated by the unit volume index.

Between 1960 and 1972 the real price of raw materials (including energy) remained virtually unchanged with an average annual rate of change of -0.3 per cent. Between 1972 and 1981 there was an enormous acceleration with an average rate of change of about 12 per cent per year. However, as above, it is important to give a closer look at the individual components and the particular developments within the sub-period 1972-1981.

The real price of industrial raw materials rose in 1973 by 32 per cent. From 1973 to 1974 it remained relatively stable, but between 1974 and 1978 it declined at an annual rate of 8.7 per cent.⁸⁰ In 1978 the real price of this product group was 10 per cent below its 1972 pre-shock level. In 1979 the real price rose again by about 15 per cent, a rise which was partly offset in 1981.

In contrast, the "real" oil price shock in 1974 was, in relative terms, about five times as big as the preceding increase in raw material prices (+162 per cent).

Between 1974 and 1978 the real price of energy raw materials declined at an annual rate of 3.6 per cent. Between 1978 and 1981 they accelerated at an average annual rate of 29 per cent, largely pushed up by the second oil price shock in 1979-1980 (49 per cent increase in real terms).

To sum up, this brief description of changes in world market prices of raw materials has revealed important quantitative differences between the price shocks which occurred in the 1970s. The large differences between energy and other raw material prices suggest that they should be treated separately in an analysis of the economic impact of the price shocks.

The individual country experiences. The extent to which these changes in world market prices of raw materials and energy spilled over into the different national economies depends, of course, on a number of different factors, such as the overall economic situation, exchange rate movements, demand elasticities, the degree of self-sufficiency, the domestic policies pursued to cushion the shocks, etc.

Table 1.5.10 shows the rates of change of the relative price of intermediate goods of manufacturing industry in 12 countries and Table 1.5.11 shows similar changes for energy materials.⁸¹ These prices are those paid by domestic producers and are taken from national wholesale price indices.⁸² All prices are measured relative to the implied value added deflator for total manufacturing industry. Note that the intermediate goods price changes are measured excluding energy materials, in

⁸⁰ There was a rise of 9 per cent in 1976, which was completely offset in 1977.

⁸¹ The exact definition of the individual country series is given in the Appendix.

⁸² For definitions see Appendix.

TABLE 1.5.10

Average annual rates of change of the relative price of intermediate goods
(Percentages)

	1960-1972 (1)	1972-1981 (2)	Difference (3) = (2) - (1)
Austria	-0.5 ^a	1.4	1.9
Belgium	-1.3	1.3 ^e	2.6
Canada	1.1	3.6 ^f	2.5
Finland	—	1.0	1.0
France	0.6 ^b	-0.3	-0.9
Germany, Federal Republic of	-2.4	0.9	3.3
Italy	-1.6	2.2	3.8
Netherlands	-1.4	4.1	5.5
Norway	-2.4 ^c	0.2	2.6
Sweden	0.1 ^d	1.8	1.7
United Kingdom	-0.8	5.4	6.2
United States	0.1	3.2	3.1

Source: Calculations of the Secretariat based on national statistics.

Note: The price index of intermediate goods was divided by the implied value added deflator for total manufacturing industry.

^a 1964-1972.

^b 1962-1972.

^c 1961-1972.

^d 1963-1972.

^e 1972-1980.

^f 1972-1978.

TABLE 1.5.11

Average annual rates of change of the relative price of energy
(Percentages)

	1960-1973 (1)	1973-1981 (2)	Difference (3) = (2) - (1)
Austria	0.5 ^a	5.9	5.4
Belgium	..	..	..
Canada	0.1	11.5	11.4
Finland	-1.7	9.4	11.1
France	1.2 ^b	11.7	10.5
Germany, Federal Republic of	-0.8	11.1	11.9
Italy	-2.0	14.0	16.0
Netherlands	..	..	..
Norway	—	2.7	2.7
Sweden	-2.1	11.4	13.5
United Kingdom	-0.8	10.1 ^c	10.9
United States	2.5	15.3	12.8

Source: Calculations of the Secretariat on the basis of national statistics.

Note: The price index of energy was divided by the implied value added deflator for total manufacturing industry.

^a 1964-1973.

^b 1962-1973.

^c 1973-1980.

order to discriminate clearly between the price movements of these two categories of goods.⁸³

Over time (time-series not shown) intermediate goods prices (including energy) have followed a similar development to that shown by world market prices (discussed above). The magnitude of the price shocks at the level of national intermediate demand was considerably less than those recorded by indices of world market prices, although in some countries the increases between 1972 and 1975 and between 1979 and 1980 were considerable. Inspection of the time series reveals a marked difference in the movement of relative prices of

intermediate goods and of energy. Whereas the relative price of raw materials generally tended to decline after 1974 and in some cases even fell back to its 1972 level, the relative price of energy was either maintained or continued to rise. The raw materials price increase that occurred in 1979 was to some extent a re-capturing of ground lost while that for energy pushed the real price to still higher levels.

Taking 1972 as a benchmark year for intermediate goods and 1973 for energy, the magnitude of the price shocks may be gauged by looking at the differences in average annual growth rates for the periods 1960-1972 and 1972-1981, on the one hand, and 1960-1973 and 1973-1981 on the other:

Average annual rates of change of the relative prices of intermediate goods and energy

	Growth differences	
	Intermediate goods	Energy
Austria	1.9	5.4
Belgium	2.6	..
Canada	2.5	11.4
Finland	1.0	11.1
France	-0.6	10.5
Germany, Federal Republic of	3.3	11.5
Italy	3.3	16.0
Netherlands	5.5	..
Norway	2.6	2.7
Sweden	1.7	13.5
United Kingdom	6.2	10.5
United States	3.1	16.2

Source: Tables 1.5.10 and 1.5.11.

Looking at the whole period from the first price shocks to 1981, it can be seen that the magnitude of the energy price shock is about three to five times larger than the raw materials price shock.

It would be all too simple to conclude from this that the energy price rise must necessarily have had a greater negative impact on economic activity than the increases in raw material prices. However, it must not be overlooked that the economic impact of changes in the relative price of factor inputs also depends on their relative importance in the total cost structure of firms. Therefore, given the fact that intermediate inputs of raw materials occupy a much more important place in the cost structure of firms than does energy, it has recently been argued that the poor economic performance of the industrialized countries since 1973 is more closely linked to the rise in raw material prices than to the increase in energy prices.⁸⁴ This hypothesis is examined in the next section.

General approach to the problem

The general approach to the problem is to take energy or intermediate goods explicitly into account within the framework of a production function.

In the case of energy this has been done in a study of US manufacturing industry.⁸⁵ Taking a Cobb-Douglas

⁸⁴ See, M. Bruno, *Raw Materials, Profits, and the Productivity Slowdown*, Working Paper No. 66, National Bureau of Economic Research, December 1981 (revised).

⁸⁵ See R. Rasche and F. Tatom, 'Energy resources and potential GNP', *Federal Reserve Bank of St. Louis Review*, June 1977, pp.10-24. For an attempt to measure the impact of the energy price rise in three European countries (France, the Federal Republic of Germany and the United Kingdom) and Canada see Rasche and Tatom, 'Energy Price Shocks, Aggregate Supply and Monetary Policy: the Theory and the International Evidence' in K. Brunner and A. Meltzer (eds.), *Supply Shocks, Incentives, and National Wealth*, Carnegie-Rochester Conference Series on Public Policy, Vol. 14, Amsterdam 1981, pp.9-93.

⁸³ The intermediate goods prices for the United Kingdom include crude oil and coal for carbonizing and thus will tend to overstate the price changes for intermediate goods in the narrow sense used here.

production function for *value added*, energy was entered as a third factor besides capital and labour.⁸⁶ Lacking data on energy input, the authors replaced this variable with the relative price of energy.⁸⁷ In the estimated production function the energy price variable proved to be highly significant, the price coefficient suggesting that a rise in the relative price of energy of 10 per cent was associated with a decline in output and productivity of about 1.2 per cent.

The basic assumption of this approach is that the partial elasticities of substitution between energy and capital or labour are unity, that is, a unit change in the use of energy is offset by a unit change in the other two factors.

In contrast to this finding it has been argued recently⁸⁸ that energy is not important enough as a factor of production to account for a major portion of the productivity slowdown. Instead, it was suggested that it was the rise in the relative price of the more comprehensive category of intermediate goods (of which energy is only a small part) that has significantly affected productivity growth.

To assess the role of the rise in prices of intermediate goods Bruno developed a model based on a two-stage production function, where *gross output* is a CES production function of the "complex" of capital and labour on the one hand and intermediate inputs on the other. Value added in turn is assumed to be a Cobb-Douglas production function of capital and labour input.⁸⁹ After several manipulations Bruno derived an equation in which productivity growth is a function of the rate of change of the capital-labour ratio and of the relative price of intermediate goods. On the basis of a cross-country regression analysis for ten OECD countries, Bruno concluded that a ten per cent rise in the relative price of intermediate inputs accounts for a decline in productivity growth of about 1.8 per cent.⁹⁰ Bruno's approach, however, appears to have a significant drawback, namely that productivity is expressed in terms of gross output per head instead of the commonly accepted measure of real value added per person employed. There are several reasons why this concept is not appropriate to attempts to account for the productivity slowdown. First, there are the problems of double-counting of inputs flowing within the boundary of manufacturing industry, which make this concept an inaccurate measure both of the level and of changes in the quantity of goods produced. Secondly, the use of the gross output concept as a basis for measuring labour productivity may lead to certain anomalies.⁹¹ Assume, for example, that technical progress enables capital and labour to produce a given product with less material inputs. In this case, gross output per worker or unit of capital would decline, while the "services" rendered by these factors remained unchanged. The same applies in

the case of energy when production methods become more energy efficient.⁹² However, it has been argued⁹³ that for reasons of consistency it is necessary to use the gross output concept once energy or intermediate goods are dealt with explicitly besides capital and labour. This is, of course, debatable, since the objective is not to estimate an accounting identity but a functional relationship containing variables which are assumed to have an impact on value added or productivity measured in terms of value added.⁹⁴

Estimating the price effects

In the following section estimates are presented of effects of the rise in the relative price of energy and intermediate goods on productivity in manufacturing industry. In order to discriminate between these two types of intermediate input separate series were compiled for energy on the one hand and intermediate inputs excluding energy on the other.

The functional form underlying the estimates is a three-factor input Cobb-Douglas function for value added. This function was estimated by regressing labour productivity on the capital-labour ratio and the relative price of either energy or intermediate goods.

Estimates were made first on a cross-country basis and then on a time-series basis for individual countries.

The evidence from cross-country analysis

The case of energy. The starting point was a pooled cross-country, time-series regression analysis, relating average annual growth rates of productivity to capital-intensity and the relative price of energy for the period before the oil price shocks, i.e. 1960–1973, and for 1973–1981, for ten countries.⁹⁵ The results are shown in table 1.5.12.

It can be seen from eq. (1) that the coefficient on the energy price variable has a negative sign and is highly significant. However, the size of the coefficient (–0.22) appears to be too high to be credible, suggesting that a 10 per cent rise in the relative price of energy entails a drop in productivity growth of about 2 per cent. It would seem that this price variable is also catching the effects of differences between the two periods other than just the oil price shock.

The procedure chosen therefore was to examine the relationship between these variables separately for the sub-periods. It was shown above that the relative price of energy remained virtually unchanged before 1973 and it is therefore not surprising to find that the cross-country regression based on observations for the period 1960–1973 gives a very small and insignificant coefficient on the price term (see eq. (2), table 1.5.12). In contrast, it is somewhat of a surprise to find that the regression for the period 1973–1981 also yields a coefficient on the energy variable close to zero and clearly non-significant (eq. (3)).

This suggests that the significant coefficient obtained

⁸⁶ The function is $Y = A \cdot L^a \cdot K^b \cdot E^c$ where Y = value added, L = labour, K = capital stock and E = energy. The coefficients a , b and c are the corresponding output elasticities of the above three factors.

⁸⁷ This is possible under the assumption of profit maximization of firms, which implies that the marginal product of each factor is equal to its relative price.

⁸⁸ See M. Bruno, 'Raw Materials, Profits and the Productivity Slowdown', *op.cit.*

⁸⁹ The function is written as follows:

$$\dot{P} = a + b(K/L) + (c/s - C) \cdot \dot{Z}$$

where $\dot{P}$ = productivity, K/L = capital-labour ratio, c = share of intermediate inputs in total gross output, s = elasticity of substitution between intermediate inputs and value added, $\dot{Z}$ = relative price of intermediate goods. A dot above variables denotes growth rates.

⁹⁰ See M. Bruno, *op.cit.*, p.20.

⁹¹ See R.W. Kopcke, 'Potential Growth, Productivity and Capital Accumulation', *New England Economic Review*, May/June 1980, pp. 24–35.

⁹² There is, furthermore, the practical problem of obtaining reliable series for gross output at constant prices, which are generally not available within the framework of national accounts. Bruno uses the index of industrial production, but in many countries, this index actually measures changes in *net output* rather than *gross output*.

⁹³ See, for example, R. Kopcke, *loc.cit.*

⁹⁴ In a more general formulation, the underlying value added function is $Y = Y(L, K, Z)$ where Y = value added, K = capital, L = labour and Z is the relative price of intermediate goods. It can be shown that the partial elasticity of value added with respect to a change in the relative price of intermediate goods is equal to the ratio of the relative shares of the material inputs and value added in gross output. See M. Bruno, *op.cit.*, pp. 3–4.

⁹⁵ The standard ten countries, excluding Belgium and the Netherlands.

TABLE 1.5.12

The relationship between changes in the relative price of energy and productivity growth: cross-country regression analysis

Period			$\bar{R}^2$	SEE
1. Pooled observations 1960-1973, ^a 1973-1981 ^b	$\dot{P} = 3.06 + 0.333 (K/L) - 0.220 \dot{Z}$ (8.14) (4.54)		0.55	1.29
2. 1960-1973 ^a	$\dot{P} = 3.43 + 0.333 (K/L) + 0.001 \dot{Z}$ (11.36) (0.005)		0.25	0.93
3. 1973-1981 ^b	$\dot{P} = 0.35 + 0.333 (K/L) + 0.014 \dot{Z}$ (0.27) (0.12)		-0.12	1.29
4. Pooled observations 1960-1973, ^a 1973-1981 ^b	$\dot{P} = 3.44 + 0.333 (K/L) + 0.012 \dot{Z} - 3.08 D$ (9.92) (0.12) (2.81)		0.68	1.09
5. Growth differences 1973-1981 less 1960-1973	$T\dot{F}P = -2.56 - 0.037 \dot{Z}$ (2.64) (0.43)		-0.099	0.996
6. Growth differences 1973-1981 less 1960-1973	$T\dot{F}P = 0.85 + 0.865 \dot{Q}$ (0.53) (2.39)		0.344	0.77

Note: 10 countries (the standard 12, excluding Belgium and the Netherlands).

The variables are as follows:

A = productivity growth; K/L = capital-labour ratio; Z = relative price of energy; TFP = total factor productivity; Q = output; D = dummy variable, equal to zero for 1960-1973 and 1 for 1973-1981.

A dot above the variables denotes growth rates. Figures in brackets below regression coefficients are t-statistics. In all regressions the coefficients on the capital-labour ratio were restricted. This is equivalent to calculating the regression in terms of total factor productivity (eq. 5 and 6).

^a Austria: 1964-1973; France, Norway: 1962-1973; Sweden: 1963-1973; Canada: 1961-1973.

^b United Kingdom: 1973-1980.

in the pooled regression (eq. (1)) is due to the energy price variable proxying for the differential impact of factors not included in the regression equation. The pooled regression was therefore recalculated with an additional dummy variable (D) with a value of 0 for the period 1960-1973 and of 1 for 1973-1981. The dummy variable is clearly significant (eq. (4), table 1.5.12), whereas the energy price term is close to zero (in fact the average of the values obtained for the two sub-periods) and clearly non-significant. A similar result was obtained when the equation was estimated in terms of growth differences between the two periods (eq. (5)).

In contrast, when the price term in this latter regression was replaced by the difference in output growth between the two periods, there is a significant and very high regression coefficient on this new variable, suggesting a strong link between changes in output growth and the decline in productivity growth (eq. (6)).

The conclusion therefore is that inter-country differences in productivity growth appear to be unrelated to inter-country differences in the rise of the relative price of energy.

The case of intermediate goods. The next step was to replace the energy price variable with the relative price of intermediate goods. The corresponding regression equations are shown in Table 1.5.13. It can be seen that the pattern of results is similar to the case of energy above. Again the regression based on the pooled observations suggests a very strong negative impact of the relative price variable on productivity growth (eq. (1)). However, in separate regressions calculated for the two periods before and after the raw materials price shock the price variable is clearly non-significant.⁹⁶ As in the case of energy, a dummy variable introduced into the pooled cross-country time-series regression equation is highly significant and eliminates the strong influence

of the price variable.⁹⁷ Similarly, a regression equation based on the growth differences between the two periods does not suggest that the price variable exerted a significant influence on productivity growth (eq. (6)).

This confirms the findings above with regard to the energy price variable. The cross-country analysis therefore does not suggest that the rise in the price of energy and intermediate goods had a significant impact on inter-country differences in productivity growth.

Individual country estimates

Estimates of the effects of changes in the relative price of energy and intermediate goods on productivity are probably influenced by cyclical movements in relative prices, and so the following regression results should therefore be viewed with additional caution. The approach chosen was to estimate the productivity equation (described above) in log-linear level form⁹⁸ and include the capacity utilization rate in manufacturing industry as a proxy for cyclical changes.⁹⁹

The estimated equations are shown in Appendix tables A1 and A2. A summary view of the estimated impact of the price changes on productivity is given in Tables 1.5.14 and 1.5.15. Col. 1 of Table 1.5.14 shows the estimated regression coefficients on the energy price variable. It can be seen that in all but one case the relative price term is significant at either the 1 per cent or 5 per cent level of significance. Furthermore, the size of the coefficients suggests a relatively strong response of productivity to relative price changes. The only country for which there is no significant coefficient on the price

⁹⁷ The regression equations for the pooled observations were also estimated with the inclusion of country dummies and a period dummy. In both cases (i.e. for energy and for intermediate goods) the regression coefficient on the relative price variable was clearly non-significant.

⁹⁸ The estimated function is as follows:

$$\ln P_t = a + b \ln (K/L) + c \ln Z + d \ln T + e \ln \text{CAPU}$$

when P = productivity, K/L = capital-labour ratio, Z = relative price variable, T = time variable, CAPU = capacity utilization rate in manufacturing industry.

⁹⁹ The capacity utilization rates are estimates made by the Secretariat. See *Economic Survey of Europe in 1981*, pp. 60-65. A revised and extended set of estimates is given in 1.5.(ii) above.

⁹⁶ Note that eq. (3) in Table 1.5.13 shows a significant price term for the second sub-period. However, on closer inspection it was found that this result was entirely due to the United Kingdom. Excluding this country from the sample reduced the adjusted coefficient of determination close to zero and rendered the coefficient on the price variable clearly non-significant (eq. 4).

TABLE 1.5.13

The relationship between changes in the relative price of intermediate goods and productivity growth: cross-country regression analysis

Period			R ²	SEE
1. Pooled observations 1961-1973, 1973-1981	$\dot{P} = 2.50 + 0.333 (K/L) - 0.599 \dot{Z} (-1)$ (8.16) (4.25)		0.49	1.28
2. 1961-1973	$\dot{P} = 3.58 + 0.333 (K/L) + 0.212 \dot{Z} (-1)$ (12.13) (0.91)		0.35	0.83
3. 1973-1981	$\dot{P} = 1.45 + 0.333 (K/L) - 0.395 \dot{Z} (-1)$ (3.15) (2.41)		0.22	0.92
4. 1973-1981 (excl. UK)	$\dot{P} = 1.33 + 0.333 (K/L) - 0.304 \dot{Z} (-1)$ (2.57) (1.32)		0.06	0.96
5. Pooled observations 1961-1973, 1973-1981	$\dot{P} = 3.32 + 0.333 (K/L) - 0.223 \dot{Z} (-1) - 2.25 D$ (10.57) (1.54) (3.85)		0.71	0.96
6. Growth differences 1973-1981 less 1961-1973	$T\dot{F}P = -2.53 - 0.120 \dot{Z} (-1)$ (5.01) (0.78)		-0.04	0.88
7. Pooled observations 1961-1973, 1973-1981	$\dot{P} = 0.087 + 0.333 (K/L) - 0.090 \dot{Z} (-1) + 0.58 \dot{Q}$ (0.27) (1.00) (8.25)		0.89	0.59

Notes: As for table 1.5.10. The price variable was lagged one year; the corresponding observations are for the periods 1960-1972 and 1972-1981.

Period deviations for the productivity and price variables:

Austria: 1965-1973 (1964-1972);

France, Norway: 1963-1973 (1962-1972);

Sweden: 1964-1973 (1963-1972);

Canada: 1962-1973 (1964-1972) and 1973-1979 (1972-1978).

variable is Canada. It should be noted that for the Federal Republic of Germany, Italy and the United States, the significant coefficients result from a regression in which the capacity utilization rate was multiplied into the capital stock variable, thus removing the direct impact of the cyclical variable on productivity.

The arithmetic average of the nine significant coefficients is about 0.09, implying that a 10 per cent rise in the relative price of energy will reduce the growth of productivity by 0.9 per cent.¹⁰⁰ With these coefficients it is possible to calculate the contribution of the energy price rise to the slowdown in productivity growth (see Table 1.5.14). The calculations suggest that this factor accounts, on average, for about one-third of the decline in productivity growth. The estimated impact differs, of course, for individual countries: it ranges from a relatively high proportion in Finland (1.4 percentage points or about 75 per cent of the total decline) to a very low one in Norway.¹⁰¹

In view of the results of the cross-country analysis reported above, it is clear that there is a possibility that the price variable is performing as a proxy for the impact of factors not caught by the cyclical variable.

A reasonable check on the plausibility of the magnitude of the estimated coefficients can be made by calculating the share of energy in total costs implied by these coefficients. These shares are shown in Table 1.5.14 and can be compared with externally available evidence. To be sure, it is difficult to get accurate figures on this matter. There is, foremost, a statistical problem. To measure the relative importance of a factor in total costs, gross output of manufacturing industry is usually taken as the denominator. However, it is evident that for

a relatively broad aggregate such as manufacturing industry, this involves a considerable amount of double-counting, since the output of one firm may simply be the input of other firms within manufacturing industry. This suggests that data on the cost structure of gross output for total manufacturing industry may grossly over-estimate the "true" relative importance of raw materials and energy, as these inputs may have been counted several times on their way through the production process.¹⁰²

The evidence from statistical surveys relating to the cost structure of gross output for *total* industry must therefore be interpreted with caution. Nevertheless, from the broadly standardized data collected by the United Nations (see Table 1.5.16) it can be inferred that the importance of energy in total costs is much smaller than is implied by the estimated regression coefficients. The average share of energy in total costs for the ten countries in Table 1.5.16 is about 2.2 per cent for 1973. This is a much lower figure than has been used in other studies concerned with measuring the impact of energy on economic activity. Thus, in 1976, one attempt¹⁰³ to estimate the elasticity of substitution between energy and other inputs on a cross-country basis assumed an energy cost share of about 12 per cent. This estimate, in turn, influenced the above-mentioned study by Rasche and Tatom which measured the effect of energy on economic activity: the latter justified their estimated output elasticity of energy of 12 per cent by pointing to the figure given by Griffin and Gregory. This figure is far above the shares given in Table 1.5.16, which are believed to be much closer to the "true" proportions prevailing in manufacturing industry.¹⁰⁴ If this is so then the

¹⁰⁰ This is the same proportion as was obtained in a recent estimate for the US Private Business Sector. See J.A. Tatom, 'Potential Output and the Recent Productivity Decline', *Federal Reserve Bank of St. Louis Review*, January 1982, Vol. 64, No. 1, pp. 3-16, pp. 7/8.

¹⁰¹ It can be seen from table 1.5.11 that the rise in the relative price of energy used by industry was smaller in Norway than elsewhere. This reflects the government policy of keeping the price of electricity low and stable for industrial consumers. Note that the major source of energy in Norway is hydro-electric power. See also OECD, *Economic Surveys: Norway*, Paris, January 1980, pp. 36-39.

¹⁰² See United Nations, *Guidelines on Principles of a System of Price and Quantity Statistics*, Statistical Papers, Series M, No. 59 (1977), pp. 4-5.

¹⁰³ J.M. Griffin and J.M. Gregory, 'An Inter-country Translog Model of Energy Substitution Response', *American Economic Review*, Vol. 66, No. 5 (December 1976) pp. 845-857, esp. pp. 850-851.

¹⁰⁴ The view that a 12 per cent share of energy in total costs is far too high is also held by E. Denison, 'Explanations of declining productivity growth', *Survey of Current Business*, August 1979, Vol. 59, No. 8, Part II, pp. 1-24, esp. p. 17.

TABLE 1.5.14

The estimated contribution of the rise in the relative price of energy to the productivity slowdown in manufacturing industry

Country	Regression coefficient ^a	Price change ^b	Implied cost share ^c (Percentage)	Contribution to slowdown	Actual decline in productivity growth ^d
	(1)	(2)	(3)	(4) = (1) x (2)	(5)
Austria	-0.127 (2.47)**	5.4	11.3	-0.7	-2.9
Finland	-0.126 (5.50)*	11.1	11.2	-1.4	-1.8
France	-0.072 (5.49)*	10.5	6.7	-0.8	-2.7
Germany, Federal Republic of ^d	-0.081 (4.09)*	11.9	7.5	-1.0	-2.3
Italy ^d	-0.095 (3.59)*	15.9	8.7	-1.5	-3.8
Norway	-0.052 (5.67)*	2.8	4.9	-0.1	-2.7
Sweden	-0.115 (3.50)*	13.5	10.3	-1.6	-4.8
United Kingdom	-0.071 (5.02)*	10.9	6.6	-0.8	-2.9
United States ^d	-0.074 (1.85)***	12.8	6.9	-0.9	-2.4
Canada	-0.027 (0.78)	11.5	..	..	-3.8

^a Regression coefficients on the price variable obtained from the following regression equation:
$$\log P = a + b \log (K/L) + c \log Z + d \cdot T + e \log CAPU$$

where P = productivity, K/L = capital-labour ratio, Z = relative price of energy, CAPU = capacity utilization rate in manufacturing industry. Figures in brackets below regression coefficients are t-statistics. The asterisk indicates coefficients significant at the 1 per cent (*) or 5 per cent (**) level of significance.

^b Difference in average annual growth rates of the relative price of energy for the periods 1960-1973 and 1973-1981 (see table 10).^c If c is the estimated regression coefficient from the above productivity equation then the implied cost share of energy is calculated as $c/(1 + c)$.^d Regression coefficients obtained from regression where the capacity utilization rate is multiplied into the capital stock variable.^e Difference in average annual growth rates of productivity for the period 1960-1973 and 1973-1981 (see table 1).

regression estimates given above would appear to grossly exaggerate the influence which the rise in the relative price of energy might possibly have had on productivity.

The estimated effect of the rise in the relative price of

intermediate goods on productivity changes in the individual countries is given in Table 1.5.15. In general, the regression coefficients on the price variable are significant only when the price variable is lagged one

TABLE 1.5.15

The estimated contribution of the relative price of intermediate goods to the productivity slowdown in manufacturing industry

Country	Regression coefficient ^a	Price change ^b	Contribution to slow-down	Actual decline in productivity growth ^c
	(1)	(2)	(3) = (1) x (2)	(4)
Austria	0.008 (0.09)	1.9	—	-2.9
Finland	-0.198 (3.82)*	1.0	-0.2	-1.8
France	-0.065 (3.39)*	-0.6	—	-2.7
Germany, Fed. Rep. of	0.045 (0.72)	3.3	—	-2.3
Italy	-0.101 (5.63)*	3.8	-0.3	-3.8
Norway	-0.019 (0.807)	2.6	—	-2.7
Sweden	-0.312 (2.56)**	1.7	-0.6	-4.8
United Kingdom	-0.081 (2.99)*	6.2	-0.5	-2.9
United States	0.063 (1.01)	3.1	—	-2.4
Canada	-0.099 (3.40)*	2.5	-0.2	-3.8

^a As for table 1.5.14. The price variable was lagged one year.^b Differences in growth rates for the period 1960-1972 and 1972-1981 (see table 11).^c Differences in productivity growth rates for the periods 1960-1973 and 1973-1981.

year.¹⁰⁵ No significant coefficients were found for Austria, the Federal Republic of Germany, Norway and the United States. The estimated contribution to the productivity slowdown is shown in col. 3. The general feature is, that where significant, the rise in the relative price of intermediate goods accounts on average for about 10 per cent of the decline in productivity growth, though somewhat more in the United Kingdom (about 17 per cent).¹⁰⁶

(d) *The influence of the fall in output growth*

The analysis presented above suggests that the sharp rise in the prices of energy and other intermediate goods in the 1970s was a significant but by no means overwhelming factor in the subsequent slowdown in productivity growth. While acknowledging the complexity of the problem and the econometric difficulties of assessing alternative explanations, it is nevertheless appropriate to recall the conclusions of the Secretariat's previous work¹⁰⁷ which concentrated on the effects on productivity growth of the sharp slowdown in output growth.

TABLE 1.5.16

The share of energy in total gross output of manufacturing industry in 1973

(Percentages)

Country	Energy ^a share in total costs
Austria	3.0
Canada	1.6
Denmark	1.3
Finland	3.3
Germany, Federal Republic of	1.9 ^b
Norway	2.4
Sweden	2.3
United Kingdom	2.5 ^c
United States	1.6 ^d
Japan	1.9

Sources: (i) United Nations, *The 1973 World Programme of Industrial Statistics: Summary of Data from Selected Countries*, (1979). (ii) United Kingdom: *Digest of United Kingdom Energy Statistics 1982* (Department of Energy) and *1978 Report on the Census of Production - Summary Tables*, Business Statistics Office, *Business Monitor PA 1006*. (iii) Federal Republic of Germany: Statistisches Bundesamt, *Unternehmen und Arbeitsstätten, Reihe 1, Die Kostenstruktur in der Wirtschaft 1. Industrie und Energiewirtschaft*, 1974, Heft 1-4. No figure for total manufacturing is available for the Federal Republic of Germany. The figure in the table is the average share calculated for eight industries (chemicals, rubber, non-electrical machinery, vehicles, plastics, glass products, furniture).

^a Fuels and electricity purchased.

^b 1974.

^c 1978 (industry excluding electricity and gas).

^d 1972.

The existence of a close association between the long run trends of output growth and productivity growth in industry has long been recognized in economic literature, and has been cast into the well-known Verdoorn Law. Throughout most of this literature the direction of causation is postulated to run from output growth to

productivity growth, the underlying rationale being that high rates of output growth lead to economies of scale, stimulate investment growth and the introduction of more efficient equipment, and facilitate organizational changes in general. (It is recognized however that there may be feedback effects of productivity change to output growth, particularly through relative price changes.)

The previous paper attempted to establish (a) whether such relationships existed for the market economies of the ECE region over the period 1960 to 1979 and (b) whether the parameters of the relationship had remained stable after 1973. The dominating feature of the results is the stability of the basic relationships between output and employment and output and productivity.

The general conclusion therefore is that the basic role of output growth as the engine of productivity growth remained largely unaltered after 1973. This holds with the exception of the Federal Republic of Germany and the United States, where the estimated elasticity of productivity with regard to changes in output in the short run fell from about 0.5 to 0.3. This indicates that in these two countries after 1973 each percentage point increase in output was associated with a lower productivity increase of about 0.2 percentage points. It might be that manufacturing industry in these two countries relies more heavily than in the other nine on very long production runs which lead to considerable economies of scale. A significant and persistent fall in demand will therefore make these industries relatively more vulnerable to losses in efficiency, as plant can only be adjusted gradually to a lower scale of operation. This argument would of course, reinforce the importance of (high) output growth for (high) productivity growth.¹⁰⁸

The second approach was to test for the relationship between productivity and output growth across 18 manufacturing industries in 10 countries, and then to test for its stability between two periods, namely, 1968-1973 and 1973-1978. The relationship held in both periods for 7 of the 10 countries and a formal test of its stability indicated no significant shift in either the intercept or the coefficient on output in Belgium, Finland, the Netherlands, Norway and the United Kingdom. For France and the United States the dummy variables indicate no significant change in the coefficient on output, whereas the intercept has moved significantly upwards in France and downwards in the United States. There are a number of differences in the regression coefficients for the two periods: however, only in two cases (namely, the intercepts in the equations for the United States and France) are they sufficiently large to support the hypothesis of a "structural change" in the relationship.

In the Federal Republic of Germany and in Italy a significant relationship between output and productivity growth was found to exist in only one of the two periods examined; in Sweden it was not significant in either period. These non-significant relationships are probably explained by the exceptional efforts of traditional labour-intensive industries to rationalize production in the presence of low demand and increased competition from abroad, and the difficulty in some branches of adjusting the existing production technology to a lower level of output.

¹⁰⁵ There are three exceptions. For Sweden and France a concurrent price variable was also found to be significant. However, in both cases the size of the coefficient remained virtually the same as that for the lagged price variables. The other exception is the United Kingdom.

¹⁰⁶ For Norway and Austria a significant coefficient on the relative price term was only obtained when the direct impact of the cyclical variable was removed from the equation by multiplying the capacity utilization rate into the capital stock variable. This latter procedure however leads to much less reliable estimates.

¹⁰⁷ *Economic Survey of Europe in 1981*, pp. 44-60.

¹⁰⁸ The importance of a low rate of growth of demand and inadequate utilization of capacity in explaining the productivity slowdown in US manufacturing industry has also been stressed in M.I. Nadiri, "Sectoral Productivity Slowdown", *American Economic Review*, Papers and Proceedings, Vol. 70 (No. 2), May 1980, pp. 349-356, and M.I. Nadiri and M.A. Schankermann, "Technical change, returns to scale, and the productivity slowdown", *American Economic Review*, Papers and Proceedings, Vol. 71 (No. 2), May 1981, pp. 314-318.

1.5(iv) Summary of findings

This study has sought to assess the importance of a number of selected factors which may have played a role in the widespread deceleration of productivity growth in developed market economies after 1973. The role of factor reallocation between agriculture, services and industry was examined and found to account, on average, for roughly 10 per cent of the slowdown. Estimating the contribution of lower rates of capital-labour substitution is a much more complex task: the results given above suggest that it may have played a significant role but this conclusion depends largely on assumptions concerning the difference between the official measures of capital stock and that which is economically effective.

Estimates were made of the impact of the rise in raw material and energy prices in lowering the growth rate of productivity. On the basis of a cross-country analysis there was no evidence that inter-country differences in relative price changes were a source of inter-country differences in productivity growth. This result appears to reflect the fact that the price shocks affected most countries to a similar degree and at the same time. The time-series analysis, in contrast, indicated a generally strong impact of energy and a much weaker effect of intermediate goods prices. However, based on independent statistical evidence it was argued that the cost shares implied by the regression coefficients for energy were implausibly high, implying that the extent to which energy prices may have pulled down productivity growth was grossly over-estimated (by a factor of 2 to 4). In contrast, the time-series regressions for individual countries concerning the impact of intermediate goods prices supported the cross-country analysis, in that their effects on productivity growth were generally small or not significant. However, at this stage of the research, it is emphasised that these results should be regarded as tentative.¹⁰⁹

Comparing these results with those of the previous paper prepared by the Secretariat, the Secretariat would still incline to the view that the slowdown in productivity growth is closely associated with the fall in the growth of demand or output, although it is recognized that other factors (such as the rise in energy prices) also played a role. However, these 'other' factors also had an influence on the development of demand. It is extremely difficult to isolate the effects of any one factor in a group where all are inter-acting on one another.

¹⁰⁹ For conflicting results on the effects of the oil price shock on economic performance, see also M.R. Darby, "The price of oil and world inflation and recession", *American Economic Review*, Vol. 72, No. 4, 1982, pp. 738-751.

Statistical Sources and Methods

A. Output, employment, capital stock

The main sources for the data underlying the analysis of the market economies are the national accounts of the individual countries supplemented by various official statistical bulletins. Where necessary, additional statistics were compiled from international sources: OECD, *National Accounts*, Paris (various issues); EUROSTAT, *National Accounts*, (various issues); EUROSTAT, *Employment and unemployment*, (various issues); United Nations, *Yearbook of Industrial Statistics*, New York; United Nations, *Yearbook of National Accounts*, New York. Where necessary, missing data for 1980 and 1981 were estimated by the Secretariat.

B. Price data

(a) Energy data

Energy price indices up to 1980 were compiled on the basis of unpublished OECD data and from OECD, *Energy Balances*. The price indices were updated to 1981 by using national wholesale price indices for different forms of energy. For Finland, all the data came from Ministry of Trade and Industry, *Energy Statistics*, Helsinki, 1981.

(b) Intermediate goods prices

All the intermediate goods prices are wholesale or producer prices compiled from national sources. In a number of cases these indices had to be linked to obtain a series for the whole period 1960 to 1981. In all cases an attempt was made to separate fuels and other energy materials from the price series for total raw materials, but this was not possible for the United Kingdom.

The individual country definitions of the series used are as follows:

Austria	Raw materials, semi-manufactures
Belgium	Raw materials
Finland	Raw materials
France	Raw materials
Germany, Fed.Rep.of	Basic materials for manufacturing industry
Italy	Auxiliary materials
Netherlands	Raw materials, auxiliary materials (including semi-manufactures)
Norway	Raw materials
Sweden	Industrial raw materials and supplies
United Kingdom	Materials and fuels purchased by manufacturing industry ¹¹⁰
United States	Materials and components for manufacturing industry

¹¹⁰ This series differs very little from the series excluding fuels. The reason for this is probably that crude oil and coal for carbonizing are still included in the latter.

APPENDIX TABLE A1

The relationship between productivity and the relative price of energy in manufacturing industry, 1960-1981

Regression equation: $\log Pt = a + b.\log(K/L) + c.\log Z + d.T + e.\log CAPU$

Country	Regression coefficients				$\bar{R}^2$	SEE	DW
	b	c	d	e			
Austria ^a	0.355	-0.127 (2.47)	0.030 (17.92)	0.849 (7.54)	0.997	0.013	1.11
Finland	0.400	-0.126 (5.50)	0.028 (18.96)	0.689 (10.99)	0.975	0.011	1.60 (rho = 0.68)
France ^b	0.351	-0.072 (5.49)	0.049 (93.82)	0.631 (20.42)	0.999	0.005	2.19
Germany, Federal Republic of ^c	0.341	-0.081 (4.09)	0.028 (38.39)	—	0.998	0.014	1.49
Italy ^c	0.372	-0.095 (3.59)	0.039 (32.52)	—	0.993	0.026	1.46
Norway ^b	0.310	-0.052 (5.67)	0.018 (102.77)	0.886 (56.28)	0.999	0.003	1.18
Sweden ^c	0.254	-0.115 (3.50)	0.026 (12.58)	0.857 (8.53)	0.968	0.012	1.60 (rho = 0.51)
United Kingdom ^d	0.286	-0.071 (5.02)	0.026 (59.72)	0.804 (7.54)	0.998	0.007	1.50
United States ^e	0.386	-0.074 (1.85)	0.027 (4.95)	—	0.891	0.017	1.25 (rho = 0.68)
Canada ^f	0.394	-0.027 (0.78)	0.023 (18.82)	0.822 (8.73)	0.996	0.013	0.84

Note: In all regressions the coefficient (b) on the capital-labour ratio was restricted. The variables are as follows: P = productivity, (K/L) = capital-labour ratio, Z = relative price of energy, CAPU = capacity utilization rate of manufacturing industry. Figures in brackets below regression coefficients are t-statistics. In the case of Finland, Sweden and the United States a correction was made for autocorrelation.

^a 1964-1981.

^b 1962-1981.

^c 1963-1981.

^d 1960-1980.

^e The capital stock variable was adjusted for changes in the capacity utilization rate.

^f 1961-1981.

APPENDIX TABLE A2

The relationship between productivity and the relative price of intermediate goods in manufacturing industry, 1960-1981

Regression equation: $\log Pt = a + b.\log(K/L) + c.\log Z(-1) + d.T + e.\log CAPU$

Country	Regression coefficients				$\bar{R}^2$	SEE	DW
	b	c	d	e			
Austria ^a	0.355	0.008 (0.07)	0.026 (23.18)	1.057 (9.78)	0.995	0.016	1.37
Finland	0.400	-0.198 (3.82)	0.024 (14.38)	0.629 (8.46)	0.958	0.020	2.10 (rho = 0.68)
France ^b	0.351	-0.065 (3.39)	0.049 (65.29)	0.783 (26.51)	0.999	0.007	1.87
Germany, Federal Republic of	0.341	0.045 (0.73)	0.030 (23.39)	0.880 (10.83)	0.999	0.009	0.93
Italy	0.372	-0.101 (3.63)	0.038 (108.32)	0.813 (32.05)	0.999	0.042	1.51 (rho = 0.36)
Norway ^b	0.310	-0.019 (0.81)	0.017 (40.99)	0.887 (30.61)	0.999	0.004	1.88
Sweden ^c	0.254	-0.312 (2.56)	0.026 (18.61)	1.18 (12.30)	0.987	0.018	1.53
United Kingdom	0.286	-0.081 (2.99)	0.025 (30.81)	0.741 (14.53)	0.995	0.012	1.66
United States	0.386	0.063 (1.01)	0.017 (16.85)	0.754 (11.80)	0.992	0.014	0.78
Canada ^d	0.394	-0.099 (3.35)	0.025 (35.92)	0.779 (14.02)	0.998	0.008	1.49

Note: As for Appendix Table A1. Z(-1) indicates that in the regression the relative price of intermediate goods was lagged one year. For Finland and Italy a correction was made for autocorrelation.

^a 1964-1981.

^b 1962-1981.

^c 1963-1981.

^d 1961-1978.

1.6. SELECTED DEVELOPMENTS IN LABOUR MARKETS, 1960-1980

Current discussions of labour market problems have focused almost exclusively on aggregate demand developments as the cause of the deteriorating employment situation. Comparatively little attention has been given to the supply side and the extent to which trends in labour supply may have reinforced or weakened the negative effects deriving from the demand side.

For a long time now, employment in the service sector of industrially advanced economies has not only tended to grow considerably faster than employment in industry but has shown a greater resilience to cyclical downturns in national output. Since services tend to be more labour-intensive than industrial activities it is clearly of considerable interest to know whether the relative dynamism of service employment has been maintained in the 1980s and whether it has retained its ability to absorb a significant proportion of the loss of jobs in industry. In other words, the question here is whether the impact of aggregate demand on employment has been softened or amplified by changes in its structure.

The following section contains a brief review of three major aspects of labour market developments in the last two decades or so. The first sub-section focuses on the different components of these changes, including the evolution of the population of working age and levels and patterns of labour force participation. Special attention is paid to the changes over time and their contribution to the recent labour market situation. The second and third sub-sections deal in greater detail with the structural aspects of changes in employment in the same period: longer-term trends and fluctuations in employment in industry and services are considered first, followed by a review of changes in the structure of employment within the services sector.

Because of the different subject areas covered, the data and estimates used are not necessarily identical in all cases. The need to consider different aspects of labour force and employment was mostly responsible for this. The first two sub-sections, which include the consideration of certain demographic characteristics, imposed the use of conventional labour force statistics, whereas the detail of breakdown of services activities required for the last section dictated the use of national income statistics. An exploratory comparison of differences between these two sets of estimates was undertaken. It suggested in general a satisfactory degree of comparability between the two series from different sources. However, it should be noted that at least in some countries this was not the case and for this reason direct comparisons between the last two sub-sections especially are not always possible.

1.6(i) Labour supply and employment trends

The continuing increase of unemployment in 1982 and the absence of indications of a substantial improvement in the near future have reinforced the already existing concern with developments in the labour markets. There is growing support for the view that the current high levels of unemployment are not only cyclically determined, but also reflect the influence of longer-term

factors.¹¹¹ Whereas a substantial amount of research on the subject of employment and unemployment has been carried out at the national level, inter-country comparisons may shed some further light on these issues. The purpose of this section is to carry out such a comparative review, with special emphasis on the different components of changes in the labour market in the course of the last two decades.

Fundamentally, a long-run balance in the labour market implies a certain proportionality in the growth of the society's labour force potential, the main determinant of which is the population of working age,¹¹² and of the work opportunities or employment. It has been argued, specifically for the case of the United Kingdom but on more general grounds, that in the long run the population of working age and employment have moved together on a proportionate basis. At the same time, however, it was recognized that in the shorter run this association does not necessarily hold and that departures from the trend might be protracted.¹¹³ As far as the longer-term positive association is concerned, sufficiently reliable data needed to trace in detail the evolution of the growth of the working age population and employment over the past thirty years or so are not available.¹¹⁴ Some general estimates which can be made, however, seem to confirm the existence of a positive relationship between the two. A comparison of the percentage growth in working age population and employment for the period between 1950 and 1980 for western Europe and North America combined shows a very similar increase in both variables. Over the thirty-year period the working age population increased by close to 34 per cent and employment grew by 37 per cent. These overall growth trends, however, conceal different subregional and country patterns. A clear divergence exists, as in many other aspects of labour market developments, between western Europe and the United States. In the first group of countries a relatively slow growth in working age population (19 per cent) was associated with an even lower increase in employment (less than 16 per cent). In comparison, in Canada and the United States combined, the working age population increased by 56 per cent but employment rose even faster (71 per cent). Trends between individual countries also differ considerably. Nevertheless, when the percentage increase of working age population between 1950 and 1980 in each country was related to its percentage growth of employment between the same years, the correlation coefficient was found to be relatively high (0.85). Although these

¹¹¹ Some of these factors are discussed in the two following sections which deal, respectively, with changes in the sectoral structure of employment and employment trends within the services sector.

¹¹² Throughout this section the population of working age refers to persons aged 15 to 64 years. This population includes the bulk of the labour force potential, defined as those able to take up employment.

¹¹³ Beenstock, M. and Warburton, P. "An Aggregate Model of the UK Labour Market", *Oxford Economic Papers (New Series)*, 34(2):253-275, July 1982.

¹¹⁴ In a substantial number of countries, breaks in the historical series of employment statistics exist. These discontinuities affect in particular year-to-year analysis, but are of lesser importance when comparisons over longer periods are to be made. Because of the lack of comparability, especially for the earlier periods, most of the following comments refer to the 1960-1980 period.

data do not indicate the existence of a uniform pattern, nevertheless they confirm the existence of a certain degree of proportionality and thus of a broad correspondence between trends in working age population and in employment.

In spite of this broad association it should be emphasized that the relation between the two is only an indirect one: there are a number of intervening variables which affect the outcome of the process and the balance or imbalance between the labour force potential and the actual demand for labour. These intermediate variables are the sex-age composition of the working age population, activity rates and the level of unemployment. The basic link between the population of working age and employment is the labour force. The sex-age distribution of the working age population together with the specific activity or labour force participation rates¹¹⁵ determine the size and composition of the labour force. The latter in turn is made up of the employed and the unemployed. In the following sub-sections the role of these different variables will be considered in the context of employment trends over the last two decades.

(a) *Trends in working age population and its sex and age composition, 1960-1980*

Trends in the population of working age have been far from uniform. In some countries the increase between 1960 and 1980 amounted to less than 5 per cent, in others it exceeded thirty per cent and, in one case, even fifty per cent. On the basis of average annual growth rates for the period 1960-1980 countries can be classified in a few broad groups:

Annual growth rate (per cent)	Countries (growth rate)
Less than 0.50	Austria (0.18); United Kingdom (0.23); Sweden (0.39); F. R. Germany (0.41); Belgium (0.46)
0.50-0.75	Italy (0.55); Denmark (0.60); Norway (0.65)
0.75-1.00	Finland (0.80); Ireland (0.92); Switzerland (0.94); France (0.96)
1.00 and over	Netherlands (1.46); United States (1.68); Canada (2.19)

An additional characteristic of the evolution of the working age population in the years between 1960 to 1980 was the more rapid growth of men than of women in all west European countries, but not in North America. Given the higher activity rates of males, their more rapid growth would result in a tendency for a faster rate of increase in the labour force and, assuming constant rates of unemployment, also in employment. The growth differentials were most marked in Austria and the Federal Republic of Germany, both countries of slow natural growth. In Austria the number of men of working age increased between 1960 and 1980 by 8.6 per cent, whereas for women there was a slight but absolute decline in numbers (-0.06 per cent). The figures for the Federal Republic of Germany were 15.7 per cent increase for men and 2.6 per cent for women. In 1960 the working age populations of these countries had a highly imbalanced sex ratio, owing to heavy male war losses. A trend toward normalization followed, as the cohorts most severely affected passed beyond working age.

The divergencies between the increase for men and women were much smaller in traditional countries of emigration, such as Ireland and Italy; the excess of the percentage increase in the number of working age men

over that of working age women in these countries was only somewhat over 1 percentage point. Canada and the United States did not conform to the pattern found in Europe: in both countries the number of women of working age increased between 1960 and 1980 somewhat faster than that for men.

It can be shown that the effect of different rates of growth between the sexes may be of some significance for the supply of labour, particularly in circumstances where this is large and the participation rates of women are low in comparison with those of men. The order of magnitude of the effect under such conditions can be illustrated for Austria and the Federal Republic of Germany. Assuming that the distribution by sex of the population in the age group 15 to 64 years did not change between 1960 and 1980 and also that the total activity rate for each remained the same, the growth of the labour force between 1960 and 1980 would have been 2 to 3 per cent higher due to the more rapid increase of males of working age.

A second demographic factor which intervenes between the growth in working age population and the supply of labour, and employment, is the *age distribution of the working age population*. Activity rates of different age groups may vary considerably and changes in the age distribution thus may have a significant effect on the supply of labour and its composition. The possible impact of this factor can be gauged by a standardization procedure, assuming that age specific activity rates remain the same over the period considered. On the basis of these constant rates and the actual population in different age groups, a standardized labour force, which only reflects the effect of changes in the age distribution within the working age population, can be calculated. The difference between the growth of this standardized labour force and that of the total working age population shows the effect of changes in the age distribution. This calculation, using the sex-age activity rates for 1960, could be carried out for eight countries for the period 1960 to 1980.¹¹⁶ The results are summarized in table 1.6.1.

TABLE 1.6.1

Percentage growth of working age population and standardized labour force^a
1960-1980

	Percentage growth Working age population	Standardized labour force ^a
Austria	3.71	7.53
Belgium ^b	8.79	10.28
Canada ^b	51.66	50.42
Denmark ^b	12.07	14.31
Finland ^b	16.75	18.76
France ^b	19.79	22.20
Germany, Federal Republic of	8.60	13.33
Sweden	8.16	9.96

^a Calculated on the assumption of constant 1960 sex-age activity rates (see text).

^b 1960-1979.

In seven countries, changes in the sex-age distribution between 1960 and 1980 were conducive to a more rapid growth in the supply of labour. The percentage growth rate of the standardized labour force exceeds that of the working age population by around 2 percentage points (from 1.5 in Belgium to 2.4 in France) in five countries,

¹¹⁵ Activity (or labour force participation) rates are the ratio, expressed in percentage terms, of persons in a given population who form part of the labour force to the total population.

¹¹⁶ Since the standardization has been carried out on the basis of age specific activity rates for each sex, the results in fact reflect the combined effect of changes in age and sex composition.

TABLE 1.6.2

Growth rates working age population, labour force and employment

	Growth rates (per cent average annual change)					
	1960-1970			1970-1980		
	Working age population	Labour force	Employment	Working age population	Labour force	Employment
Austria	-0.16	-0.53	-0.45	0.53	0.60	0.63
Belgium	0.29	0.67	0.83	0.62	0.81	0.21
Denmark	0.77	1.29	1.41	0.57	1.21	0.33
Finland	1.01	0.18	0.14	0.59	0.66	0.36
France	1.11	0.80	0.68	0.80	0.78	0.37
Germany, Fed. Rep. of	0.26	0.11	0.16	0.56	-0.05	-0.33
Ireland	0.23	0.01	-0.01	1.62	0.97	0.94
Netherlands	1.53	1.22	1.24	1.39 ^a	0.61	0.19 ^a
Norway	0.70	0.67	0.71	0.59	1.63	1.78 ^a
Sweden	0.67	0.67	0.69	0.12	0.99	0.92
Switzerland	1.38	1.47	1.47	0.51	-0.34	-0.18
United Kingdom	0.22	0.34	0.25	0.25	0.40	-0.03
Canada	2.29	2.54	2.63	2.08	3.17	2.97
United States	1.64	1.77	1.83	1.72	2.41	2.16

^a Employment expressed in man-years.^b 1972-1981. Data not comparable with earlier period.

but by substantially larger margins in Austria (3.8 percentage points) and the Federal Republic of Germany (4.7). In all but one country, Sweden, this more rapid growth can be attributed to a much more rapid increase of men in the central age group, 25-54 years, which also has the highest participation rate. The large growth differential between this group and the total working age population in Austria (16.4 and 3.8 per cent, respectively) and in the Federal Republic of Germany (28.0 and 8.6 per cent, respectively) is mainly responsible for the greater impact of changes in the sex-age composition than in other countries. In contrast to the other countries, the increase of the working age population in Canada exceeded that of the standardized labour force, but by only a small margin (1.2 percentage point). This implies a slight negative effect of changes in the sex-age distribution on potential labour supply, but considering the large increase in Canada's working age population the difference has little significance.

As far as the relationship between the supply and demand of labour over time is concerned, the evolution of the working age population, which implies shifts in the potential labour supply and possible pressures in the labour market, is generally perceived to be exogeneously determined. This assumption may need qualification in the longer run,¹¹⁷ but also in the short term. As is well known, a number of countries, in particular in western Europe, resorted to large scale immigration of migrant workers in the period of labour shortages in the 1960s and subsequently to a reduction and reversal of immigration during recessionary periods and the general economic slowdown after the mid-1970s. The impact of this factor has been of considerable significance in a number of countries.¹¹⁸

¹¹⁷ In particular, Easterlin has argued that the employment situation, especially of young adults, may engender a demographic response in nuptiality and fertility thus causing long-term swings in population and labour force growth. See, for instance, Easterlin, R. "What will 1984 be like? Economic Implications of Recent Twists in the Age Structure" in *Demography* 15(4):397-432, November 1978.

¹¹⁸ See, for instance, Economic Commission for Europe, "Labour Supply and Migration in Europe: Demographic dimensions 1950-1975 and prospects" *Economic Survey of Europe in 1977, Part II*, Chapters II and III, Sales no. E.78.II.E.20 (United Nations, New York, 1978).

(b) Trends in working age population and employment, 1960-1970 and 1970-1980

As might be anticipated in the light of the large inter-country differences in growth rates over the period 1960-1980, differences in the growth rate of the working age population also appear when shorter time-spans within the 1960-1980 period are examined (see table 1.6.2).

A slowdown in the growth of the working age population in the 1970s as compared with the 1960s, which would be in line with the long-run secular decline in overall population growth, is clearly evident only in five countries (Denmark, Finland, France, Sweden and Switzerland). In each of these the growth rate of the population of working age in the 1970s was at least one quarter below that of the 1960s, suggesting a significant decrease in pressures in the labour market emanating from demographic factors. In Denmark, Finland and Switzerland the growth rate was 0.5 to 0.6 annually, whereas it was higher in France and lower in Sweden. In contrast to a decline in growth of the working age population, an acceleration suggests increasing pressures in the labour market. Significantly higher growth rates in the 1970s compared with the 1960s are found in Austria, Belgium, the Federal Republic of Germany and Ireland. In all these countries the increase in the 1960s had been slow (even negative in Austria) but between 1970 and 1980 it accelerated, and except in Ireland, produced annual growth rates between 1970 and 1980 of some 0.5 to 0.6 per cent. Ireland is an exception in the sense that the high natural growth, which still prevails in this country, was counteracted in the 1960s by a large volume of emigration. When the latter declined strongly in the 1970s, the growth rate of the population of working age went up sharply to over 1.6 per cent from a low of 0.2 per cent between 1960 and 1970. The remaining countries do not exhibit a clear pattern, except for the fact that changes in growth rates over the two last decades were comparatively small, thus implying no major shift in the demographic determinants of labour supply. However, the rate of growth in the countries in this group (Netherlands, Norway, United Kingdom, Canada and the United States) varied widely, from 0.2 per cent in the United Kingdom to over 2 per cent in Canada (see table 1.6.2).

For western Europe and North America these developments resulted in a slightly higher increase of the working age population in the 1970s than in the 1960s. For western Europe the rise was marginal, from an increase of 5.9 per cent between 1960 and 1970 to 6.1 per cent between 1970 and 1980. The difference was somewhat larger in North America, but comparatively small in the light of the much higher growth rate there (18.4 per cent increase in the 1960s and 19.0 per cent in the 1970s). For the two regions combined the growth rate increased from 11.0 per cent between 1960 and 1970 to 11.8 per cent between 1970 and 1980.

Comparisons of changes in working age population and in employment in the two decades do not provide clear signs of a growing divergence between the two. In fact the combined data for western Europe and North America show an acceleration in growth in both working age population and employment, with the higher increase in the latter. However, for each of the two regions separately the picture changes. In western Europe a modestly higher increase in the working age population in the 1970s was associated with a slightly slower growth in employment. In contrast, North American data show a significantly higher increase in employment in the 1970s than in the 1960s:

	Working age population		Employment	
	1960–70	1970–80	1960–70	1970–80
<i>Percentage increase</i>				
Western Europe and North America	11.0	11.8	9.6	12.0
Western Europe	5.9	6.1	2.5	2.2
North America	18.4	19.0	20.7	24.8

The significance of such overall comparisons is limited, given the wide variations between countries with regard to changes in the working age population. More detailed data lend some support to the assertion, made above, that in spite of the broad association between the two, changes in the working age population and employment may diverge over fairly long periods. A loosening of the relationship between the two seems to manifest itself in the recent decade. Correlation coefficients relating the percentage growth in working age population in each country to its percentage growth in employment in different sub-periods were calculated. The coefficients for the periods 1950–1960 and 1960–1970 were of the same order of magnitude (varying between 0.83 and 0.87). For 1970 to 1980 the coefficient dropped considerably (0.56). The inference is that, especially in the most recent decade, trends in working age population diverged much more from those in employment than has traditionally been the case.

Estimated average annual growth rates of the working age population and employment in individual countries for 1960–1970 and 1970–1980 are presented in table 1.6.2. The data suggest the existence of certain broad patterns, but also differences with respect to the behaviour of the two variables in general and over time. In both respects there is clear evidence of the difference between western Europe and North America. A more rapid expansion of employment than of working age population in North America contrasts with an inverse relation between the two in the majority of west European countries. This difference persists over time. The higher growth of employment occurs in North America both in the 1960s and 1970s. In comparison, in five of the west European countries (Finland, France, the Federal Republic of Germany, Ireland and the Netherlands) employment

increased more slowly than the working age population in 1960–1970 as well as in 1970–1980. In addition, in three other countries of western Europe (Austria, Switzerland and the United Kingdom) a lower growth of employment in one of the two decades went together with very similar growth in employment and working age population (although marginally higher for employment) in the other decade. Trends which diverge from the average west European pattern however, are found in Belgium and Denmark, where during the 1960s employment expanded more rapidly than the working age population, although the opposite was true between 1970 and 1980. In addition, Norway and Sweden deviate from the rest of western Europe: in both countries working age population and employment increased at similar rates in the 1960s, but in the 1970s employment grew considerably faster than the working age population.¹¹⁹

(c) Trends in labour force participation and the labour force

The observed differences in the growth of working age population and employment can in part be explained by the divergence in trends in working age population and labour force due to changes in participation rates as well as shifts in the sex-age distribution of the working age population. In order to estimate the effect of participation rates, it is necessary to account for the possible distortions caused by variations in the sex-age distribution. This can be done through the use of the standardization procedure described above, that is, the application of a set of constant sex-age labour force participation rates to the corresponding sex-age groups of the population of working age. The standardized labour force thus obtained accounts for the effects of the growth of the working age population and changes in its composition.¹²⁰ The ratio between actual labour force and these estimates corresponds to the effect of changes in sex-age participation rates. Increasing ratios imply a net increase in participation rates, while decreasing ratios point to a decline. Chart 1.6.1 shows the ratios between actual and the standardized labour force, for males and females for the eight countries mentioned earlier.

Four countries in this chart (Austria, Finland, France and the Federal Republic of Germany) represent what was referred to earlier as the typical west European pattern of slower growth in employment than in working age population both in the 1960s and 1970s. Considering first the decade of the 1960s, it seems to be obvious from the slower growth of the actual compared to the

¹¹⁹ Due to a break in the series in 1971, employment estimates for Norway are not comparable over time. Accordingly, the data used for the past decade refer to 1972–1981 rather than 1970 to 1980. In spite of this lack of comparability, the changes observed between the two sub-periods are so large that the assumption of a change in the underlying trends seems reasonable. The discontinuity in the series, however, does not allow an identification of the timing of such a change in trends.

¹²⁰ This statement needs to be qualified insofar as these labour force estimates do not account fully for the impact of the demographic factors in that they ignore the so-called “interaction” term. The standardization method is based on the following expressions:

$$LF_t - LF_o = \sum a_{io}(P_{it} - P_{io}) + \sum P_{io}(a_{it} - a_{io}) + \sum (P_{it} - P_{io})(a_{it} - a_{io})$$

where: LF: is the labour force

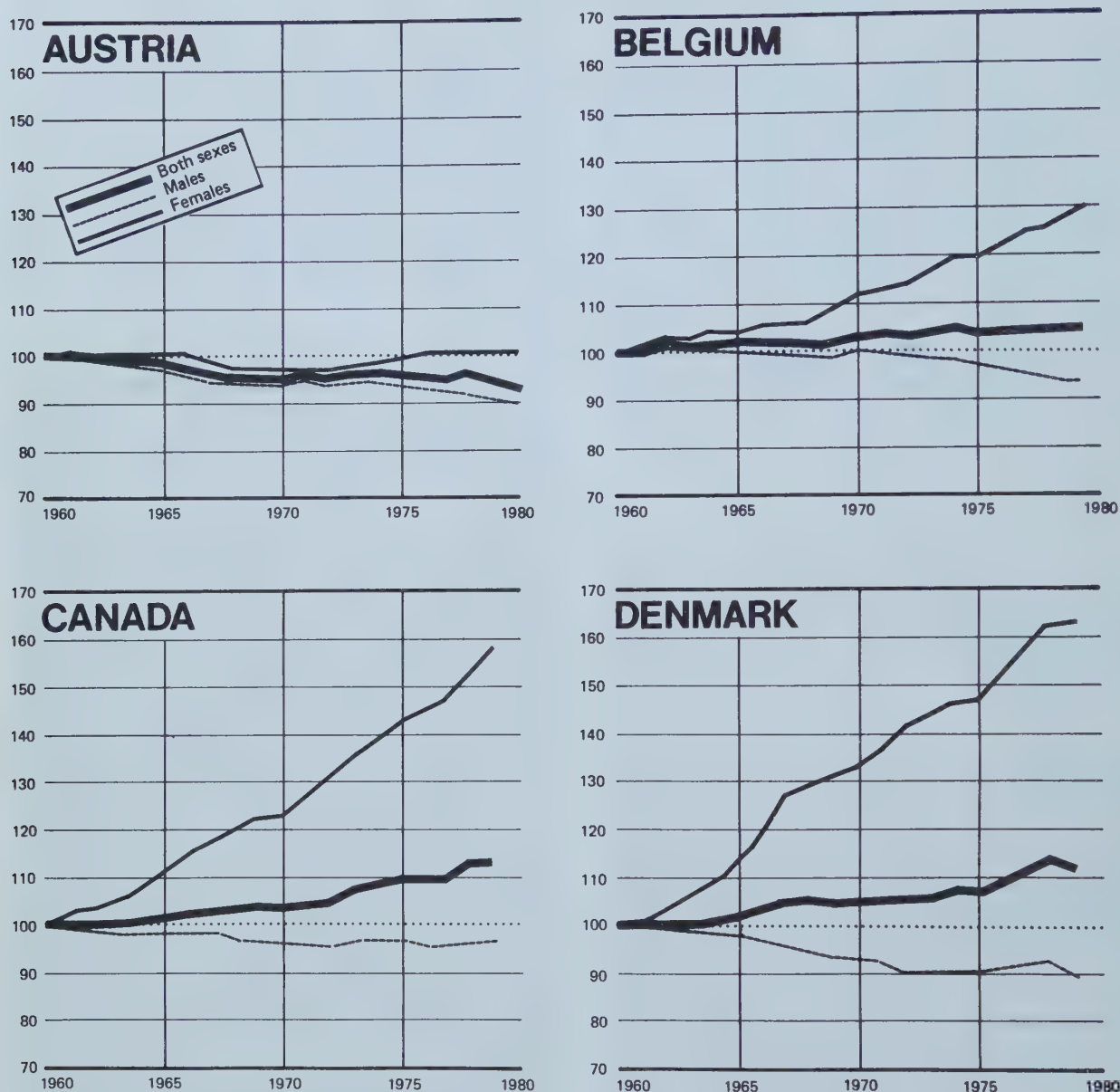
P_i : population in age group i

a_i : participation rate of age group i

the subscript o refers to the base year (1960 in this case) and t to each individual year between 1960 and 1980.

The last term in the expression is the so-called interaction effect, because it contains the effect of changes in both population and participation rates. Since it is not possible to isolate from this term the part due to changes in population structure, the estimates above are based only on the first term.

CHART 1.6.1.
RATIO OF ESTIMATED AND HYPOTHETICAL LABOUR FORCE



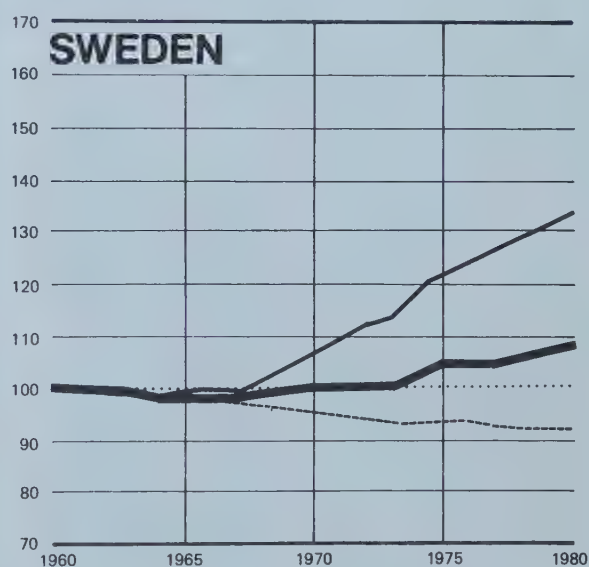
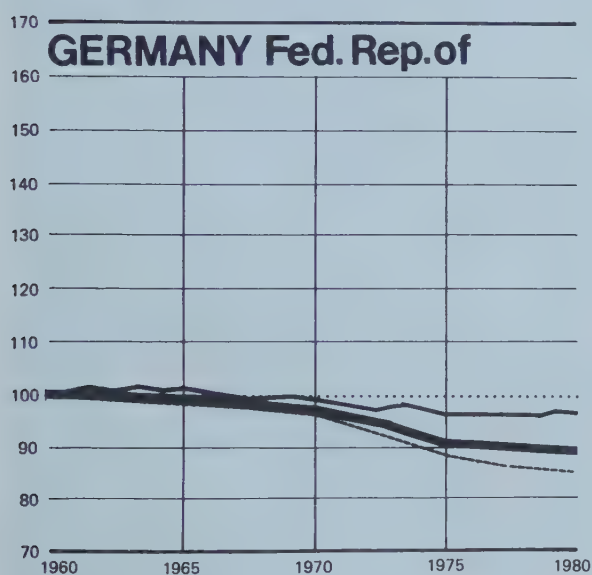
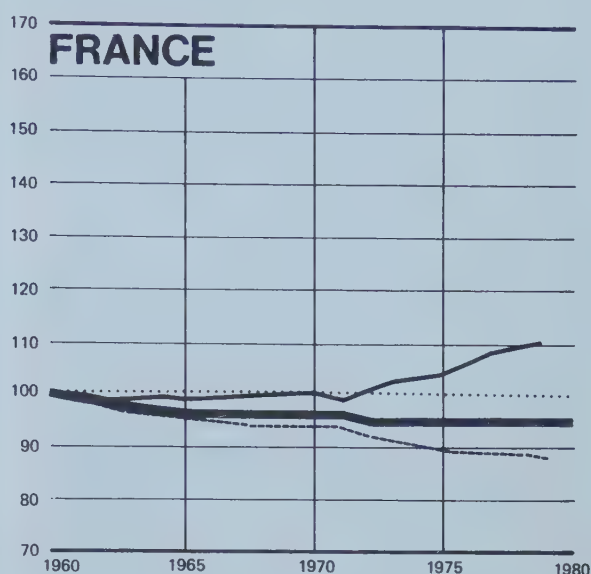
standardized labour force that the prevailing tight labour markets and low unemployment did not induce a rise in participation rates. The ratio, and thus participation rates, in these countries declined gradually, but consistently, from 1960 on. Even the large inflow of migrant workers into some of these economies did not change this basic trend. Moreover, the chart shows that in three of the four countries, the decline in the overall ratio was mainly due to a fall in the participation rates of men. The value of the ratios for women are generally higher and, on the whole, changes in female participation rates had only a small effect on trends in this period.¹²¹

¹²¹ In Finland the ratio for women was below that for men. This may have been in part due to a substantial drop in the number of women employed in agriculture, probably as family workers, in the 1960s. Between 1961 and 1970 the number of women employed in agriculture declined by 42 per cent.

Of special interest is the behaviour of the ratio between the actual and standardized labour force in those countries, Belgium, Denmark and Sweden,¹²² which either in the 1960s or 1970s deviated from the pattern prevalent in most of western Europe. Of these countries both Belgium and Denmark experienced in the 1960s a more rapid growth of employment than of the working age population, but this situation reversed itself in the course of the 1970s, in conformity with the trend in most other west European countries. In both countries the ratio of actual to standardized labour force in the 1960s was above unity, indicative of rising participation

¹²² The discontinuities in the labour force and employment series for Norway mentioned earlier, did not permit its inclusion in this analysis. However, the overall relation between the growth in working age population and employment in Norway during the 1960s and 1970s may have been similar to that found in Sweden.

CHART 1.6.1
RATIO OF ESTIMATED AND HYPOTHETICAL LABOUR FORCE



rates. However, the underlying factors in each case were different. Belgium is unique among the countries considered insofar as until 1973, there is no clear evidence of a net decline in male participation rates. This evolution in combination with steadily rising female participation rates implied a more rapid increase in actual than in the standardized labour force. In contrast, in Denmark the higher participation of women accounted for the more rapid growth in the labour force and employment; as in the other west European countries, the participation rates of males fell during the 1960s. The basic trend in Sweden in the 1960s was similar to that in Denmark, except for the fact that rising female participation rates only became clearly evident in the latter half of the decade and were offset by a fall in the activity rates of men.

In the 1960s in Canada there was a combination of

decreasing participation of males, as in most west European countries, but a much stronger increase in the economic activity of women. Between 1960 and 1970 the female labour force in Canada increased by over 20 per cent more than what could have been anticipated on the basis of demographic trends only.

Unlike the 1960s, shifts in the relation between working age population and employment in the 1970s cannot be explained solely in terms of changes in the labour force. The reason for this is the appearance of a significant unemployment gap. The two recessions in the 1970s evidently had a considerable impact on employment, but there is a wide support for the view that recent and current unemployment levels are not only cyclical. It may be recalled in this context, as noted in last year's *Survey*, that in many countries unemployment after the 1973-1975 recession did not drop to the levels

typical of the 1960s, but remained comparatively high.¹²³ One implication of the adverse development in employment was that whereas in the 1960s employment increased more slowly than the working age population in five west European countries, in the 1970s this number rose to nine. In addition, the difference between the growth rates of working age population and of employment widened in the 1970s as compared with the 1960s. The three remaining European countries in which employment in the 1970s increased faster than the working age population (Austria, Norway and Sweden¹²⁴) were also the only countries where there was no significant increase in unemployment rates during the 1970s.

A comparison between the *growth trends of labour force and working age population* in the 1960s and the 1970s for the countries included in chart 1.6.1 brings out clearly the effect of the observed changes in overall participation rates (table 1.6.2). The increase of the working age population in the 1960s exceeds that of the labour force (or the working age population declines less than labour force) in Austria, Finland, France and the Federal Republic of Germany. A higher growth in labour force than in working age population is found in Belgium, Denmark and Canada, while in Sweden both increased by the same proportion. As for the other countries in table 1.6.2, a more rapid growth of the working age population occurred in Ireland, the Netherlands and Norway, while labour force increased faster in Switzerland, the United Kingdom and the United States. The generally rising trend in participation rates in the 1970s is reflected in the fact that of the eight countries included in chart 1.6.1 six showed a higher rate of increase of labour force than of the population of working age. In France the growth rates of labour force and working age population were virtually the same; the Federal Republic of Germany was the only country where, as in the 1960s, the working age population experienced a higher rate of growth than the labour force. Of the remaining countries three (Ireland, Netherlands and Switzerland¹²⁵) also had a lower growth of the labour force, whereas labour force growth was higher in Norway, the United Kingdom and the United States.

It would appear that in general and with significant exceptions (e.g. North America), labour force growth and in particular participation rates may have been out of synchronization with labour demand developments. In the 1960s participation rates do not seem to have responded in a positive way to demand conditions and tight labour markets. There is also little evidence, at least until the end of the 1970s, that deteriorating employment conditions have led to any significant fall in levels of participation.

This is not to say that in the shorter run labour supply has been completely insensitive to cyclical fluctuations in employment. As may be seen from chart 1.6.1 the ratio of actual to standardized labour force, which is an index of overall changes in participation rates, shows the effect of recessions in a number of countries; either in the form of a decline or, especially in the case of women, of a slowdown in the increase in the ratio. A very rough indication of the impact of cyclical unemployment on participation rates can be obtained by comparing the actual and standardized labour force, since the latter is

not affected by changes in participation rates and at the same time allows for the effects of shifts in the age distribution within the working age population. The deviations from the underlying trend in the relation between these two variables in periods of recession provides a basis for estimating the order of magnitude of the response of participation rates to cyclical fluctuations in employment. The results for five countries (Belgium, Canada, Finland, France and the Federal Republic of Germany), which indicate order of magnitudes rather than precise estimates, suggest that for males the 1967–1968 and 1973–1975 recessions may have caused a drop in participation rates of between about 0.5 and somewhat less than 2 per cent. The effect on female participation seems to have been stronger, the estimates range from a little less than 1 per cent up to 2.5 per cent. In four of the five countries the impact of the 1973–1975 cycle appears to have been more pronounced than that of the 1967–1978 cycle. The exception is the Federal Republic of Germany where the estimates are, more than in other countries, affected by the large outflow of migrant workers in the most recent of these recessions.

(d) *Labour force, employment and unemployment*

The relation between the developments in the labour force and the expansion of employment in the 1960s, confirms that the period was generally one of tight labour markets and decreasing unemployment. In nine of the fourteen countries shown in table 1.6.2 employment rose between 1960 and 1970 more rapidly (or decreased less) than the labour force, and in three others (Finland, Ireland and Switzerland) both increased at more or less the same rate. Only in France and the United Kingdom was the growth rate of the labour force higher than that of employment. Even though the degree to which the expansion of employment lagged behind that of the labour force was small in these countries, the fact of this divergence may be more important than its magnitude. A closer scrutiny of unemployment trends in the 1960s reveals that this development may have reflected a significant change in employment and unemployment trends which manifested itself in the case of these two countries in a slower growth of employment than of the labour force. This pattern also existed in a number of other countries but was concealed by other factors.

Data for France and the United Kingdom suggest that the 1967 recession was associated not only with a temporary upsurge in unemployment, as in other countries, but also with a longer term upward shift in unemployment levels. In both countries unemployment after the recession remained well above the pre-1967 levels. In the case of France, unemployment rates between 1960 and 1966 fluctuated within the narrow range of 1.0 to 1.3 per cent. Starting in 1967 unemployment went up and continued to increase slowly, even after the recession. Between 1969 and 1974, the last year before the impact of the 1973 recession was felt, unemployment rates climbed, gradually and with only one interruption, from 2.3 to 2.8 per cent. Unemployment patterns in the United Kingdom were not as clear-cut, but nevertheless showed a similar tendency. In the pre-1967 period unemployment rates fluctuated between 1.1 and 2.0 per cent, as compared with between 2.0 and 3.2 from 1969 to 1974. Developments in the United Kingdom differed from those in France in that a not unimportant recovery of employment occurred in 1973 and 1974. However, even in these years unemployment rates (2.1–2.3 per cent) still exceeded the upper limit of the 1960–1966 period.

It may be noted that if the employment trends during and after the recession are eliminated, the two countries

¹²³ See *Economic Survey of Europe in 1981*, p. 18 and chart 1.1.2.

¹²⁴ As noted in last year's Survey, low levels of registered unemployment in Sweden are, at least in part, due to the widespread job creation and job support schemes.

¹²⁵ The total labour force in Switzerland and the Federal Republic of Germany actually declined between 1970 and 1980. This may have been due in part to the outflow of migrant workers since the 1973 recession.

no longer differ from the others as regards the relative growth in labour force and employment. In the period 1960 to 1966 the annual growth rate of the labour force in the United Kingdom remained below that of employment. In France the annual growth rates of labour force and employment in this period were virtually the same.

As mentioned before, there are also indications of an upward shift in unemployment during the latter part of the 1960s in other countries, although it did not, as in France and the United Kingdom, cause the growth of employment to fall below that of the labour force during the decade as a whole. The emergence of a higher level of unemployment in a number of countries seems to be obvious from table 1.6.3 where unweighted averages of unemployment rates for a period in the first part of the 1960s are compared with those for a period following the 1967 recession.¹²⁶

Table 1.6.3 shows a significant upward shift in unemployment after the 1967 recession in at least three other countries, in addition to France and the United Kingdom. These are Finland, the Netherlands and Sweden, for which the unemployment rate in the more recent period, although generally still low, was roughly between 50 and 100 per cent higher than in the years before 1967. Canada may also belong to this group, in that the 1970-1974 unweighted unemployment rate was close to one-third higher than in 1961-1966. Most other countries also exhibited higher unemployment rates after the recession years, but the differences were not so large as to be considered significant.

These data may be too crude to reach a definite conclusion regarding the upward shift in unemployment

TABLE 1.6.3

Average unweighted unemployment rates 1960-1966, 1970-1974 and 1977-1980

	Average unweighted unemployment rate		
	1960-1966	1970-1974	1977-1980
Austria	2.1	1.5	1.9
Belgium	1.8 ^a	2.1	6.9
Denmark	1.6	0.9 ^a	5.9
Finland	1.4	2.1	6.1
France	1.2	2.6	5.6
Germany, Fed. Rep. of	0.7	0.8 ^a	3.6
Ireland	5.0	5.9	6.8
Netherlands	0.8 ^a	1.6 ^a	4.5
Norway	1.0 ^a	0.8 ^a	1.9
Sweden	1.5	2.2	2.0
Switzerland	0	0	0.3
United Kingdom	1.4	2.5	5.6
Canada	4.3 ^a	5.7	7.8
United States	5.1	5.2	6.4

^a 1962-1966

^b 1961-1966

^c 1969-1973

^d 1970

¹²⁶ The periods selected were basically 1960-1966 and 1970-1974, but as indicated in the footnotes to the table these were not uniformly adhered to. In some instances the years 1961 to 1966 (or 1962 to 1966) were used for the calculation in order to eliminate from the average the effect of a markedly higher unemployment in these countries (Netherlands, Canada, Belgium and Norway) in 1960 (or 1960 and 1961) due to the recession of the early 1960s. In some countries, the later period also differed from the standard; (1969-1973 instead of 1970-1974 was used in Denmark, the Netherlands and the Federal Republic of Germany) because the recovery of the 1967 recession and the onset of the effects of the 1973 recession seemed to have occurred earlier in these countries. In the case of Norway only 1970 could be used for the later period, because of the absence of data for 1971 and a discontinuity in the series for the subsequent years.

in the late 1960s, but some of the research on labour markets tends to lend support to this hypothesis. In an econometric study of unemployment trends in Belgium, France, the Federal Republic of Germany and the United Kingdom, Driehuis concluded that in all of these countries imbalances in the labour market, leading to what he calls structural unemployment, emerged after 1967.¹²⁷ Although the data presented in table 1.6.3 did not point strongly to such a structural change in unemployment in Belgium and the Federal Republic of Germany, the cases of France, the Netherlands and the United Kingdom seem to be clear.

The deterioration of the labour market in the 1970s is obvious when rates of growth of the labour force and employment are compared (see again table 1.6.2). In eleven out of fourteen countries employment increased at a lower rate than the labour force. Moreover, in Austria the growth of employment was only marginally higher than that of the labour force. The only countries where the employment increased more rapidly (or declined less) were Norway and Switzerland. In the latter country the emigration of foreign workers since the 1973 recession reduced the pressures in the labour market, which otherwise would have probably led to higher unemployment.

In last year's *Survey* it was noted that in many countries unemployment rates did not return to their pre-recession levels after 1973.¹²⁸ A comparison of the average unweighted unemployment rates for 1977-1980 with those for 1970-1974 clearly shows the sharp increase in recent years (see again table 1.6.3). However, it should be noted that the data for the most recent period may already reflect some of the effects of the current recession on employment levels. Even so the rise in unemployment rates in comparison with the early 1970s is striking. They declined only in Sweden and as noted before, this was not so much the result of a vigorous demand for labour as of a wide range of job support programmes. Moderate increase in unemployment rates occurred in Austria and in Ireland, Canada and the United States, three countries where unemployment was already relatively high in the early 1970s. In all others the average unemployment rate in 1977-1978 was at least twice that of the years 1970-1974. On the basis of the available evidence it would seem that after the upward shift in unemployment rates of the late 1960s to early 1970s a second and even stronger upward shift occurred in the latter part of the 1970s. The time perspective is not long enough to judge whether it is in fact a question of two separate shifts or a long-term trend of rising unemployment. Since data for the most recent years, which show a very steep increase in unemployment, are affected by the current recession, they are not sufficient to substantiate either point of view.

(e) Conclusions

The evolution from 1960 to 1980 of the major components of change in the labour market - the population of working age, labour force and employment - in eleven countries is shown in chart 1.6.2. As the graphs suggest the relation between the three is not a close one. Only in a few countries (France, Canada and the United States) did these two variables as well as labour force vary within a fairly narrow band. In the United Kingdom where in the past decade there has been a slow growth of population, labour force and

¹²⁷ Driehuis, W. "Labour Market Imbalances and Structural Unemployment" in *Kyklos* 31(4):638-661, 1978.

¹²⁸ *Economic Survey of Europe in 1981*, p. 18.

CHART 1.6.2.

POPULATION OF WORKING AGE, LABOUR FORCE AND EMPLOYMENT INDICES 1960-1980

(1960-64=100)

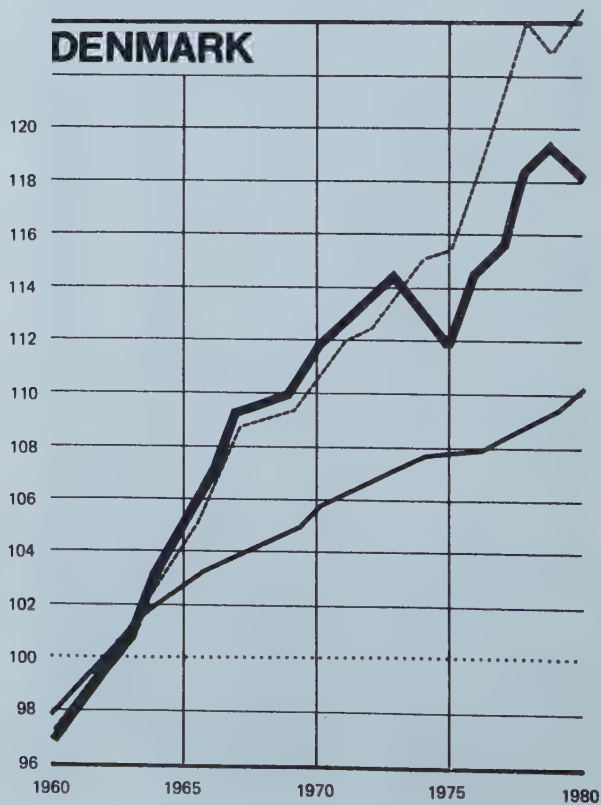
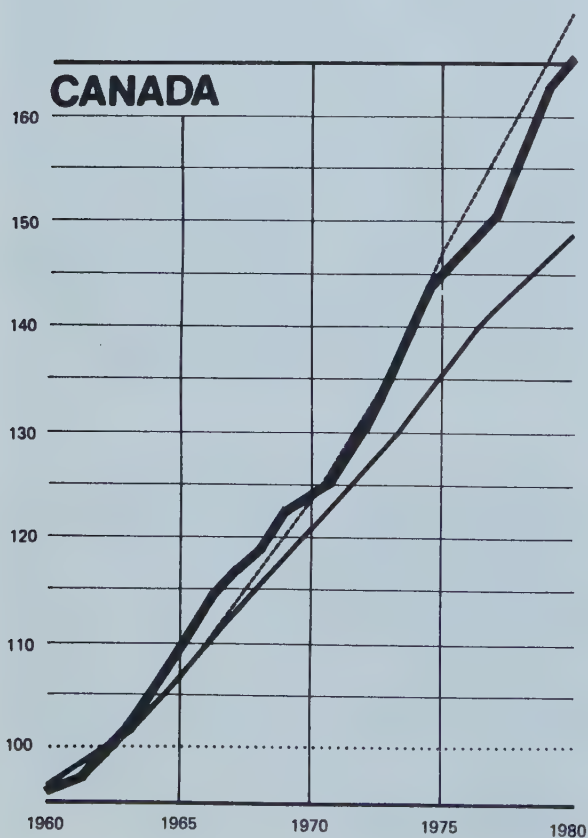
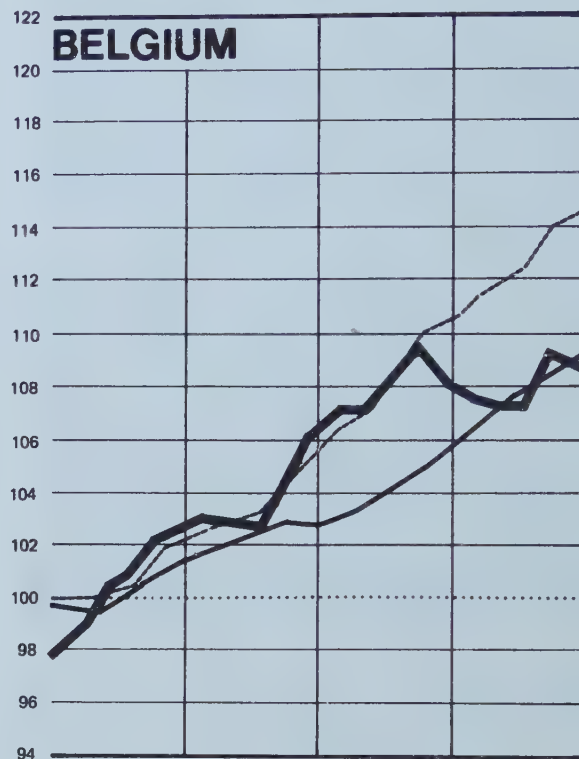
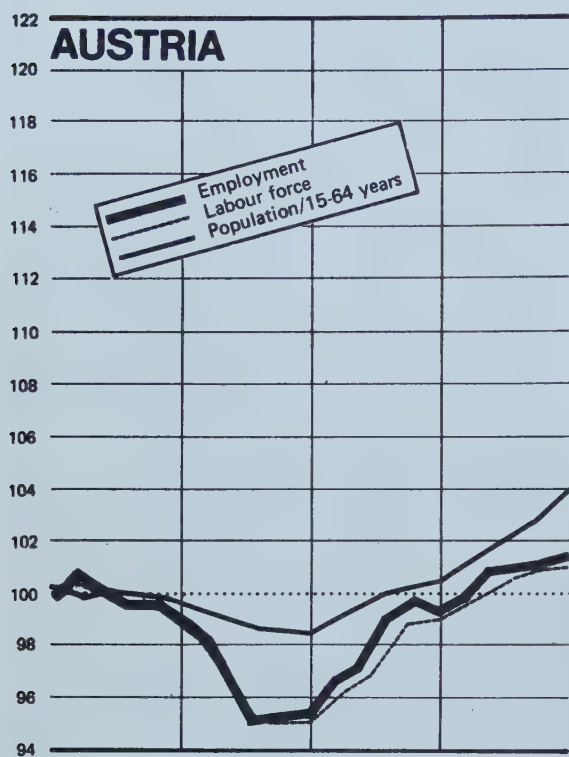


CHART 1.6.2.

POPULATION OF WORKING AGE, LABOUR FORCE AND EMPLOYMENT INDICES 1960-1980

(1960-64=100)

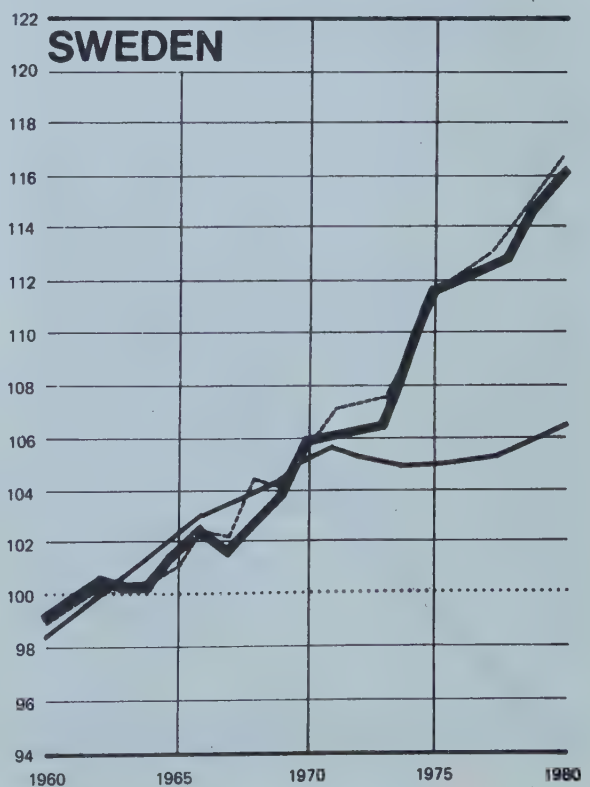
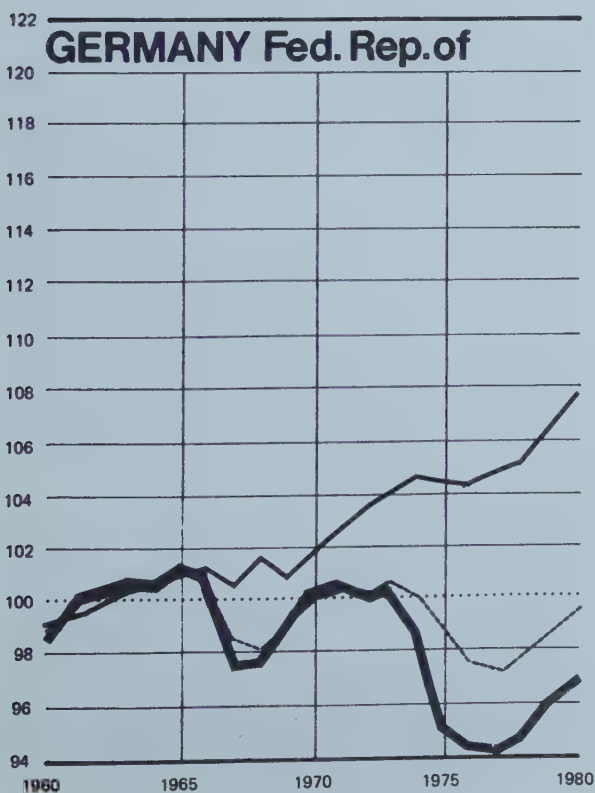
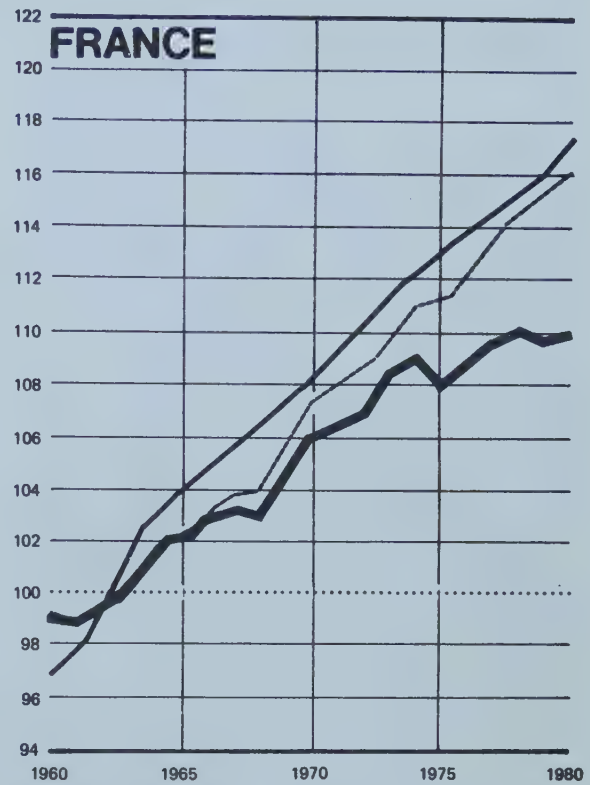
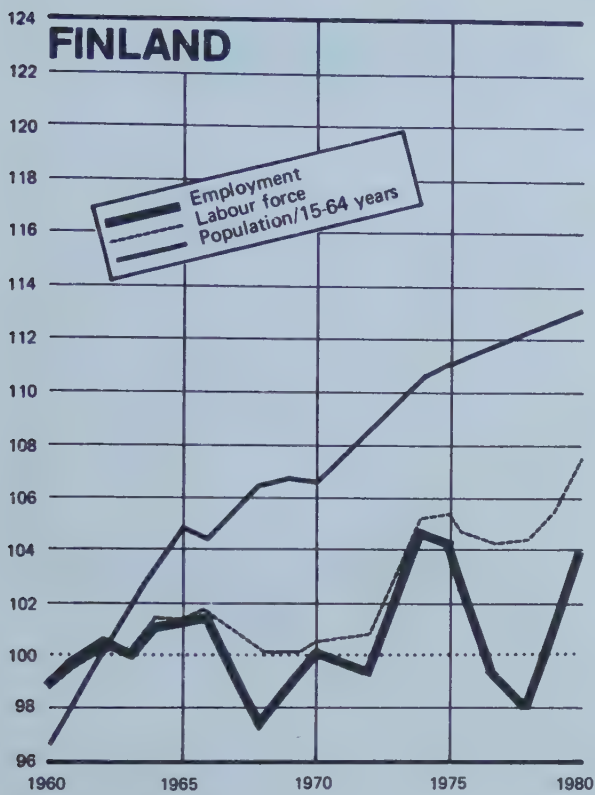
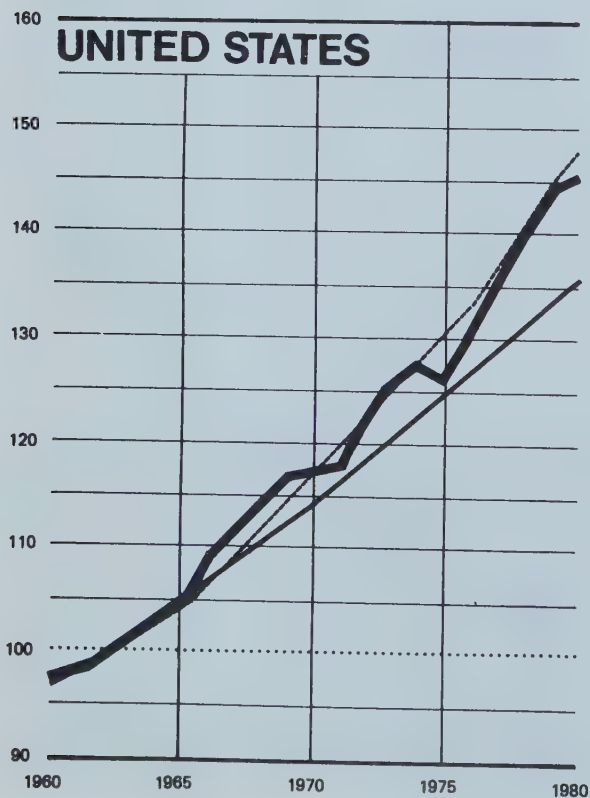
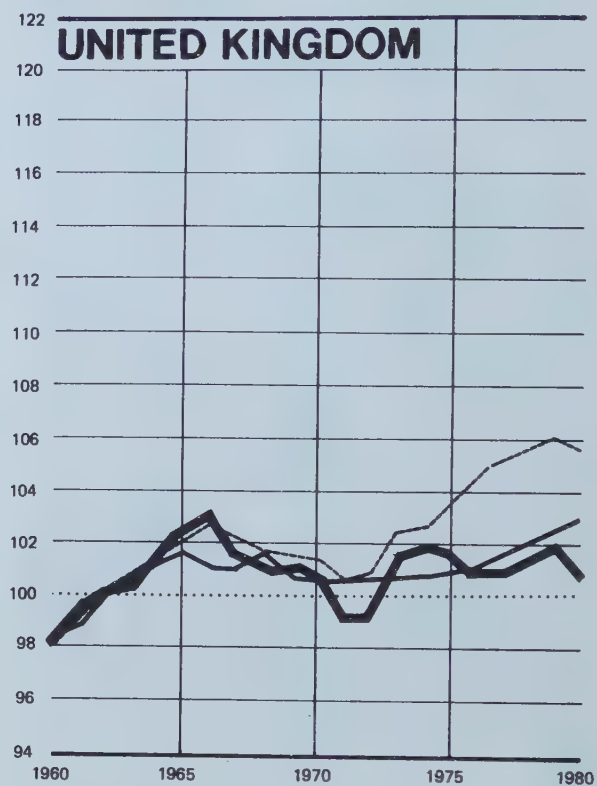
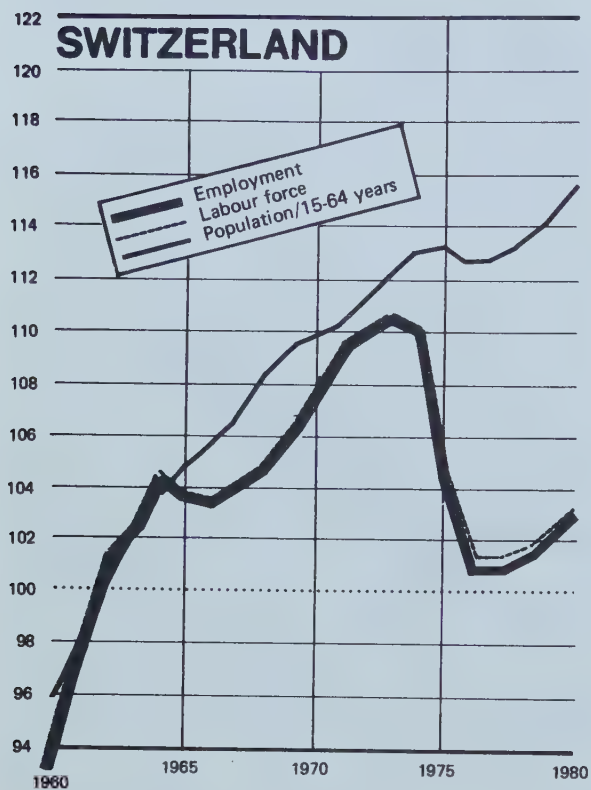


CHART 1.6.2

POPULATION OF WORKING AGE, LABOUR FORCE AND EMPLOYMENT INDICES 1960-1980

(1960-64=100)



employment, trends in each of the three are interwoven without exhibiting a clear pattern. In the majority of the remaining countries (Austria, Finland, Federal Republic of Germany and Switzerland) the long-term growth of the labour force and employment fell below that of the working age population, whereas a lower growth of the working age population is found in Belgium, Denmark and Sweden. The data suggest many qualifications to generalizations on trends and patterns.

Even so, the results of the preceding analysis permit some tentative conclusions concerning the functioning of the labour market in the past decades, and specifically the degree of its internal flexibility to changing conditions.

Of the three variables, the population of working age is the least likely to respond to changing labour market conditions. There is no reason to seriously question the assumption prevalent in growth literature that the growth of population, including the population of working age, is exogenously determined. Possibly from a much longer run perspective than the present one, the assumption of the exogenous nature of the growth of the working age population might come into doubt. From the point of view of the present analysis, however, the major qualification concerns the role of international migration. In the past two decades large-scale migration has played a significant role in population growth and the growth of the working age population in a number of countries. During the years of labour scarcity the inflow of foreign males of working age accounted for a large share of the growth in the labour force potential in some countries. Return migrations since the 1973 recession were an important factor in the adjustment of labour supply to demand. The future of international migration is uncertain, but it is worth noting that the present situation, which is likely to prevail in the coming years, is one of excess labour supply, and international migrations are probably more effective as a means of adjustment to labour shortages than to labour excess.

The role of labour market conditions in determining labour force participation is not well established despite the extensive literature on the subject. As the preceding review of trends over the last two decades suggested, overall activity rates do not appear to have been synchronized with labour market conditions in all countries: participation rates declined in periods of labour scarcity and exhibited a rising trend at the time when the demand for labour weakened. Such divergencies between supply and demand for labour may have a number of causes. First, the market mechanism may not function as assumed in traditional theory, where supply and demand are seen as a function of wages. A number of factors may contribute to disequilibrium: on the supply side a backward sloping supply curve or a net negative income effect of wage increases on the supply of labour, which implies a decline in supply of labour in response to higher wages, could produce such a result. Declining participation rates of males in the 1960s may have been in part due to this factor.

In the second place a variety of factors outside the markets may affect participation rates. While the sharp rise in the rates for women, particularly married women, might be explained in part by economic factors (rising wages, changes in demand patterns due to the sectoral shift to services, etc.), non-economic factors in the form of changing tastes and attitudes, probably also played a part. The relative importance of each of these groups of factors cannot be assessed. Nevertheless, the rapid and sustained changes in female participation in some of the countries might be indicative of a secular change.

Another group of factors which operate outside the labour market but can have significant repercussions on

labour supply, are changes in legislation and provisions which affect the economic conditions of workers and potential workers. There are many instances of such broad social policies which have had such an effect. For example, changes in income tax legislation (e.g. whether the joint income or the income of each separately is taxed) may either induce or discourage labour force participation of wives. The extension of coverage and increases in old-age pensions may have been a significant factor in the decline of labour-force participation amongst older men.

Programmes and measures, such as the ones referred to, are not as a rule formulated with the purpose of influencing labour force participation.¹²⁹ However, in the last decade or so a number of policies (e.g. early retirement, longer schooling for young entrants into the labour force) have been introduced with the specific aim of reducing the supply of labour and, ultimately, unemployment. Such measures may have resulted in a significant slowdown in the increase of unemployment, at least temporarily.

Little can be said about unemployment trends in the light of the preceding factors. The somewhat more rapid growth of working age population in the 1970s than in the 1960s in a number of west European countries may have added marginally to supply pressures on employment. However, the fall in the correlation coefficient between working age population and employment in the 1970s, referred to above, is in all likelihood more an effect of the stagnation in employment than of the trends in working age population. Nevertheless, the evolution of the age-structure of the working age population might have had some effect on unemployment levels. In particular, the more rapid increase in the number of young persons in recent years who are also characterized by higher unemployment, may have contributed to the rise in total unemployment.

On the supply side, higher labour force participation rates of females who, in most countries, account for a high and rising share of unemployment may have been partly responsible for the rising trend in unemployment. The increased participation of married women may also have affected another dimension of labour supply, namely its geographic mobility. If both husband and wife work, geographic mobility may decline in proportion to the prospect of both of them finding employment in another location. Such a decrease in mobility, which would also be affected by the aging of the labour force, might be important at times when rapid changes are occurring in the sectoral structure of demand and output.

As in the case of labour supply, social and other legislation may, directly or indirectly, affect the observed level of unemployment. Policies which reduce the supply of labour will also have a tendency to lower registered unemployment levels. Direct intervention to create jobs through public programmes will have the same effect.

Although such intervention, as well as that aimed at lowering labour supply, may reduce unemployment, unless they are designed to provide a better adaptation of supply to demand, they will not resolve the fundamental problem of an excess supply of labour. As was observed in last year's Survey, in western Europe and to a lesser extent in North America, the shortfall in the demand for labour was the major factor in the rapidly increasing rate of unemployment.¹³⁰

¹²⁹ Nevertheless, to an increasing extent the effects of different social programmes of this type on labour supply are being considered as one of the pertinent factors to be taken into account.

¹³⁰ *Economic Survey of Europe in 1981*, p. 18.

1.6(ii) Changes in the sectoral distribution of employment

A major feature of labour markets in the last decade is that the lower growth of employment has been accompanied by substantial shifts in its sectoral distribution. The most dramatic development has been the stagnation and even contraction in many countries of employment in industry, most significantly in manufacturing, and a concomitant expansion of service sector employment.¹³¹ Historically, the most far-reaching structural change had been the shift from agricultural to industrial employment, but as this movement began winding down, a second historic structural change began to take place, namely, the increasing dominance of service employment over industrial employment. Although shrinkages of the industrial work force began to appear in the 1960s, the growing importance of service employment relative to industrial employment was already evident in the 1950s for several of the European countries and even earlier for the United States. As early as 1930, 40 per cent of those employed in the United States were producing services. The fact that by 1950 the share of service employment was 53 per cent bestowed upon the United States the distinction of being the first nation in which more than half of the employed population was not involved in the production of food, clothing or other tangible goods.

Before discussing the actual sectoral trends in employment, some of the limitations to making comparisons between sectors should be noted. One is that the relative growth of the service sector is probably somewhat exaggerated by the growth of part-time employment. In Great Britain, for example, almost all of the growth in service employment between 1961 and 1971 was due to the increased number of female workers (1.2 million out of a total increase of 1.3 million) and the indications are that almost all of this growth was in part-time work.¹³² According to data from the United Kingdom Population Census, the percentage of part-timers in total female employment rose from 25 per cent to 38 per cent between 1961 and 1971, the result of an increase of 106 per cent in the number of part-time workers and a 6 per cent decline in the number of full-timers. The service sector in general has been the major source of part-time female employment and, within services, general government has been particularly important. A recent study by the Secretariat shows that "part-time employment accounts for a significant proportion of total employment in general government sector and this proportion has risen sharply since the early 1960s".¹³³ In 1975, according to this study, part-timers accounted for 30 per cent and more of total general government employment in the United States, the United Kingdom, Sweden and Denmark, and between 13 and 20 per cent in Finland, the Federal Republic of Germany and Switzerland. Thus the changing structure of employment is affected by the units of measurement employed.¹³⁴ How serious is this as a source of over-estimation of the relative growth

of the service sector? Table 1.6.4 shows, for a few countries where the data were readily available, the growth of service employment in terms of (a) hours worked or full-time equivalent and (b) numbers employed. It is clear that the share of employment in the service sector is lower on the basis of hours worked than of numbers employed in all countries, the biggest difference being 4 percentage points in Norway. The differences between the growth rates of the two measures are more striking. The annual growth rate of service employment in Sweden in terms of hours worked is almost half of the rate for numbers employed and is one third lower in the case of Norway and Finland. In the United States, although the employment share of the service sector in terms of full-time equivalents was 2.5 percentage points lower than the share of numbers employed, there was no difference in the growth rates, which implies a similar rate of expansion of both part-time and full-time jobs. However, although these data indicate that the share of the service sector in total employment (as well as the growth of labour input in the service sector itself) is overstated when measured on the basis of numbers employed rather than hours worked, they do not invalidate the conclusion that there has been a significant shift toward the service sector. Indeed, comparison of the alternative measures of the change in the service share of total employment suggests that the shift (between 1973 and 1980) was actually more marked in terms of hours worked than numbers employed (probably because of a decline in hours worked in industry).

Another problem that affects measurement of the shift to services concerns the sectoral classification or location of service workers. For example, a manufacturing firm may decide to replace its accountants with the services of an outside accounting firm. While there has been no basic change in the type of work being performed, there has been a change in where it is performed, resulting in a different classification of the personnel concerned. This effect can also work in the other direction: an industrial concern may decide to purchase its own computer (perhaps because of declining prices) and hire a computer programmer instead of contracting with a computer services company. The importance of this change in classification is difficult to determine because in most countries a sufficiently detailed matrix of employment by industry and occupation is not available. However, such a matrix does exist for the United States¹³⁵ and from this it is possible to get a broad idea of the importance of this problem.

Between 1970 and 1978 professional and technical occupations grew by 3.4 per cent for the total non-agricultural sector. The annual growth rate of this occupational group was 1.2 per cent in manufacturing but 3.9 per cent in the service sector. Within this occupational category engineering declined by 0.4 per cent annually in manufacturing, whereas it increased by 2.2 per cent in services. During the same period, accountants in services grew by 4.8 per cent compared with 2.1 per cent in manufacturing. Over the same period total employment in computer services increased by 400,000, of which 318,000 were in the service sector. According to the Department of Labour data only about two-thirds of all service workers are actually employed in the service sector. These data thus suggest that the usual series for employment by sector probably understate the actual size of service employment in the economy as a

¹³¹ Industrial employment comprises mining and quarrying; manufacturing; electricity, gas and water; and construction. Service employment is composed of wholesale and retail trade and restaurants and hotels; transport, storage and communications; financing, insurance real estate and business services; community, social and personal services; and activities 'not adequately defined'. The classification system is that of the International Standard Industrial Classification of All Industrial Activities (ISIC-1968).

¹³² Department of Employment "Changing Structure of the Labour Force", *Employment Gazette*, HMSO, London, October 1975.

¹³³ "Employment in general government in industrial market economies", in: Economic Commission for Europe, *Economic Bulletin for Europe*, Vol. 30, No.2, 1979, United Nations, New York.

¹³⁴ This issue and its effects on labour productivity are discussed to

some extent by Edward F. Denison, "The Shift to Services and the Rate of Productivity Change", US Department of Commerce, *Survey of Current Business*, October 1973, Washington D.C.

¹³⁵ United States Department of Labour, *Industry-Occupation Employment Matrix 1970-1978*, Washington D.C., 1981.

TABLE 1.6.4

Service sector employment, 1973-1980, in terms of hours worked and numbers employed

	Shares in total employment				Annual average growth rates 1973-1980	
	Hours worked		Numbers employed		Hours worked	Numbers employed
	1973	1980	1973	1980		
	(Percentages)				(Per cent)	
Finland	53.1	56.8	54.7	58.2	1.0	1.4
Norway	51.0	58.0	55.3	61.9	2.6	3.9
Sweden	57.6	63.2	60.0	65.5	1.4	2.6
United States	65.2	68.4	67.9	70.9	2.6	2.6

Source: See list of sources to section 1.6(iii)

Note: Numbers employed and hours worked refer to total employees in Finland and Sweden, and to total employment in Norway. In the United States the data refer to employees and to their full-time equivalent.

TABLE 1.6.5

Employment by sector

Country	Percentage of total employment in:						Average annual percentage change			
	Industry			Services			Industry		Services	
	1960	1970	1980	1960	1970	1980	1960-70	1970-80	1960-70	1970-80
Austria	40.6	41.3	39.8	36.9	44.1	51.2	-0.3	0.2	1.4	2.4
Belgium ^a	43.5	42.1	33.6	48.0	53.3	63.4	0.5	-1.9	2.1	2.0
Finland	31.8	35.3	34.2	32.0	42.1	53.4	1.2	0.1	3.3	3.1
France ^a	36.7	38.7	35.0	41.7	47.9	56.5	1.3	-0.6	2.3	2.2
Germany, Federal Republic of ^a	46.4	47.5	43.9	40.1	44.0	50.2	0.4	-1.1	1.2	1.0
Netherlands ^a	40.4	39.0	31.9	48.2	53.9	62.1	1.0	-1.7	2.7	1.7
Sweden	40.3	38.4	32.2	44.0	53.5	62.2	0.2	-0.8	3.0	2.8
Switzerland	46.5	46.0	39.8	38.9	45.4	53.0	1.4	-1.7	3.5	1.3
United Kingdom ^a	46.8	44.1	37.6	46.5	52.7	59.7	-0.4	-1.5	1.6	1.3
Canada ^a	32.0	30.6	28.3	53.6	61.9	66.3	2.4	2.4	5.0	4.4
United States ^a	32.3	33.0	29.9	59.7	62.6	66.6	2.2	1.2	2.6	3.2

Sources: National statistics; OECD Labour Force Statistics, Paris, various issues; Secretariat estimates.

^a Includes Armed forces^b Man-years.

whole. It is also possible that part of the decline in the manufacturing sector in some countries has simply reappeared as an increase in the service sector.¹³⁶ However as noted above the 'classification' problem could work in the opposite direction although, with the data available at present, it is not possible to do more than guess at its net effect on changes in sectoral shares of total employment.

Changes in the structure of employment over the last two decades are shown in table 1.6.5 on the basis of the readily available labour force statistics, which are subject to the qualifications mentioned above. By the end of the 1960s Europe was experiencing extremely low growth rates of industrial employment, with Austria and the United Kingdom registering small declines. By 1980, the rates had plummeted even further. Only in Austria and Finland was there an increase in industrial employment over the previous ten years, although quite negligible, of the order of 0.1 to 0.2 per cent a year. At the same time that industrial employment was stagnating, service employment was expanding rapidly. The most spectacular jumps between 1960 and 1980 took

place in Canada and Finland, of the order of 115 per cent and 75 per cent respectively, and even the smallest increase exceeded 23 and 31 per cent (Federal Republic of Germany and United Kingdom). Yet, by 1980 the rapid expansion of the service work force appears to have slowed down sharply. Whereas in Austria and the United States the growth of service employment in 1970-1980 accelerated over the previous ten-year period, in Belgium, Canada, Finland, France, Federal Republic of Germany, Sweden and United Kingdom, the growth was slightly lower, while in the Netherlands and Switzerland it was considerably lower.

In terms of the proportion of workers employed in services in 1960 the west European countries were lagging far behind the United States: in the latter the proportion was 60 per cent, while the highest percentage in Europe was 48 per cent (Belgium and the Netherlands). However, by 1980, partly as a consequence of the narrowing of the income gap between the United States and Europe, the income elasticity of demand being higher for services than for goods, the proportion of service-producing employment in all of the countries ranged from between approximately one-half to two-thirds of the employed population. In contrast, with the exception of Finland, the proportion of those employed in industry declined in ten countries between 1960 and 1980, the largest declines occurring in Belgium, the Netherlands and the United Kingdom, where the

¹³⁶ In the United Kingdom the number of personnel employed in computer services increased by 5.8 per year between 1971 and 1981. More than 50 per cent of total computer services are sold to industry from the service sector each year. See Departments of Industry and Trade, *British Business*, HMSO, London, 27 August 1982.

proportion in 1980 was nearly one-fourth lower than in 1960.

Employment in agriculture, hunting, forestry and fishing has been excluded from the tables, as well as the discussion, because of the sector's relative unimportance as a provider of employment. Moreover it has been characterized by continuing declines in both its proportion of total employment and in the absolute number of those employed. By 1980 the most significant percentage of workers in this sector was in Finland, where they barely exceeded 10 per cent of those employed. However, it appears that in the present recession the decline in employment in the primary sector may have begun to decelerate in several countries.¹³⁷

Because of the high rates of employment growth and relatively low unemployment experienced by the European countries through the 1950s and early 1960s, the disparities in structural change that were evolving went almost unnoticed until recent years. During the 1970s, the sharp rise in energy prices, spiralling inflation and slackening productivity had a severe impact on the level of employment. By 1981 the unemployment rate had jumped to around 7 per cent in western Europe, due in part to policies designed to dampen demand in order to bring down persistently high inflation rates. The combined forces of sharply rising unemployment and stagnation in employment, have focused attention, amongst other things, on the role of structural changes and its differential impact upon countries. In addition, while there are certain similarities among countries (see table 1.6.5), there exist also a number of differences which are more clearly visible in charts 1.6.3 and 1.6.4.

Chart 1.6.3 dramatizes one of the more salient features of labour market developments between 1960 and 1980, that of slow growth or stagnation of overall employment in most of the west European countries. Despite this similarity, the graphs suggest rather sharp distinctions in the patterns of sectoral employment growth, particularly for industry, both among the individual west European countries and between western Europe and the United States. From the chart it can be seen that within Europe, in terms of industrial employment, countries fall into one of three categories: first, those where the index of industrial employment dropped precipitously between 1970 and 1980 to levels far below those of 1960 (Belgium, the Federal Republic of Germany, the Netherlands, Sweden, Switzerland and the United Kingdom); second, countries where the level of industrial employment has generally hovered around that of 1960 (Austria and France); and finally, Finland, where the index increased slightly between 1960 and 1980. In Canada and the United States, despite fluctuations, the movement of the index has been upwards, the index in 1980 being substantially higher than in 1960. In Canada, industrial employment increased by 54 per cent between 1960 and 1980, and in the United States by 37 per cent.¹³⁸

¹³⁷ *Economic Survey of Europe in 1981*, table 1.1.16.

¹³⁸ One often cited explanation for the declines in industrial employment has been that investment in new production technologies has largely sought to rationalize and streamline production processes, fuelling "jobless growth", i.e. generating substantial increases in output with fewer workers. There have been a number of well publicized cases where electronic technologies, for example, have been associated with reductions of employment in particular industries or occupations (see, for example, Gunter Friedrichs, "Microelectronics - A New Dimension of Technological Change and Automation", Club of Rome Conference, West Berlin, 3-6 October 1979, and OECD, *Technical Change and Economic Policy*, Paris, 1980). However inter-industry studies have generally failed to establish any significant negative relationship between the growth of employment and that of productivity (see Economic Commission for Europe, *Structure and Change in European Industry*, United Nations, 1977, p.87) and it has also been shown that the basic relationships between employment and output in Europe have generally remained stable after 1973 (see *Economic Survey of Europe in 1981*, pp. 52-54).

In contrast to the indices of industrial employment, those for service employment present an image of greater similarity among the European countries, at least to the extent that in all countries they rise steeply and lie above the indices of total and industrial employment. One notable feature of the employment indices is their increasing divergence in the European countries, and their virtually parallel movement in Canada and the United States. Considering its potential importance for policy formulation, there is a considerable gap in the understanding of the relationship between industrial and service employment, due in no small part to the complex interaction of demand and supply side factors. One view, albeit simplistic, is that up to the 1960s it had been the growth and productivity increases in manufacturing which had created the economic growth that in turn contributed to the increased demand for service workers,¹³⁹ partly through the effect of higher incomes on the demand for private and public services and partly through the related growth of specialized business services.¹⁴⁰ The widening divergence between growth in service employment and contractions in industrial employment is important to note because it suggests that this supposed structural link, that of industrial growth stimulating demand for services, may have weakened in Europe, while continuing in North America. However, against the present background of budgetary deficits and persistent inflation, efforts to restrain the growth of public expenditure and to diminish the size of the government sector may, in those countries where the public sector comprises a large share of service employment, act as a brake on this growing disparity between service and goods-producing employment growth.

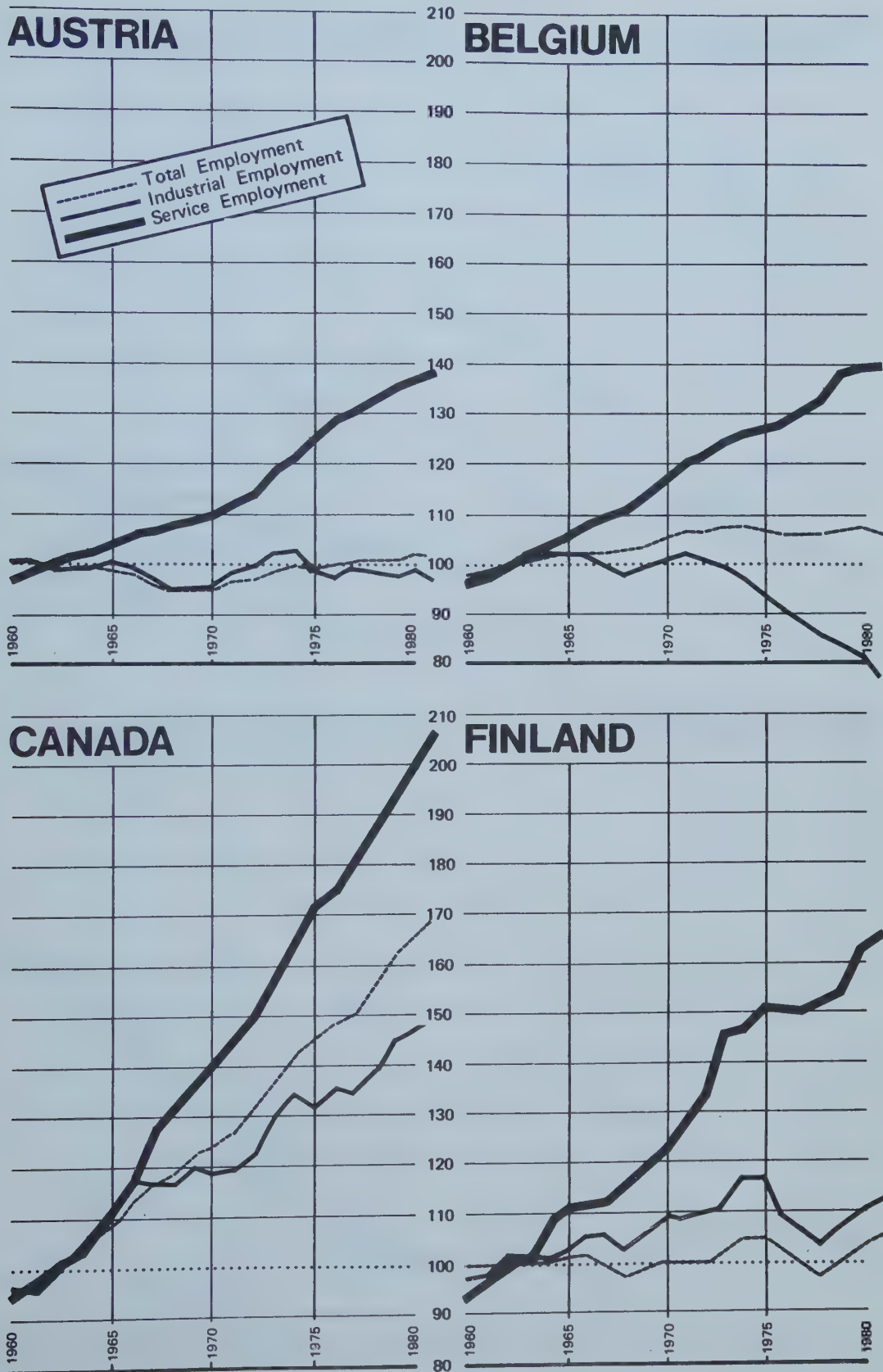
The data are displayed in a somewhat different fashion in chart 1.6.4, by ratios of service to industrial employment, in order to permit a comparison of the changing "mix" of service and industry jobs that has developed over the last two decades. One interesting feature is the stability of the ratios in western Europe between 1960 and 1965. Apart from Finland and the United Kingdom, the relative gains or losses achieved by the two sectors were quite limited.¹⁴¹ However, after 1965 the ratios increase sharply and fan out, in contrast to the clustering of ratios between 1960 and 1965. This increasing divergence suggests a diversity of responses to the changing forces of supply and demand that have exerted an influence over the employed population in the 20 year interval. The 1960s mark the onset of mass consumerism, first manifested as a boom in the consumption of goods, particularly consumer durables, which was then followed and to a degree displaced by increasing demand for services (mass tourism, etc.). Afterwards, events such as the oil price shocks, as well as changing import competition, could have induced dramatic shifts of demand between sectors over com-

¹³⁹ The view of manufacturing as the 'engine of growth' is partly based on the sector's large share in the European economies of total value-added and employment, and on its high growth rate of 5.5 per cent a year in terms of value-added and 5.0 per cent a year in terms of productivity between 1960 and 1973: see Robert Boyer and Pascal Petit, "Employment and Productivity in the EEC", *Cambridge Journal of Economics*, Vol. 5, 1981. On the remarkable stability of the relationship between GDP growth and growth of manufacturing output, before and after 1973, see *Economic Survey of Europe in 1981*, p.44.

¹⁴⁰ This last point is considered in more detail in section 1.6.(iii) below.

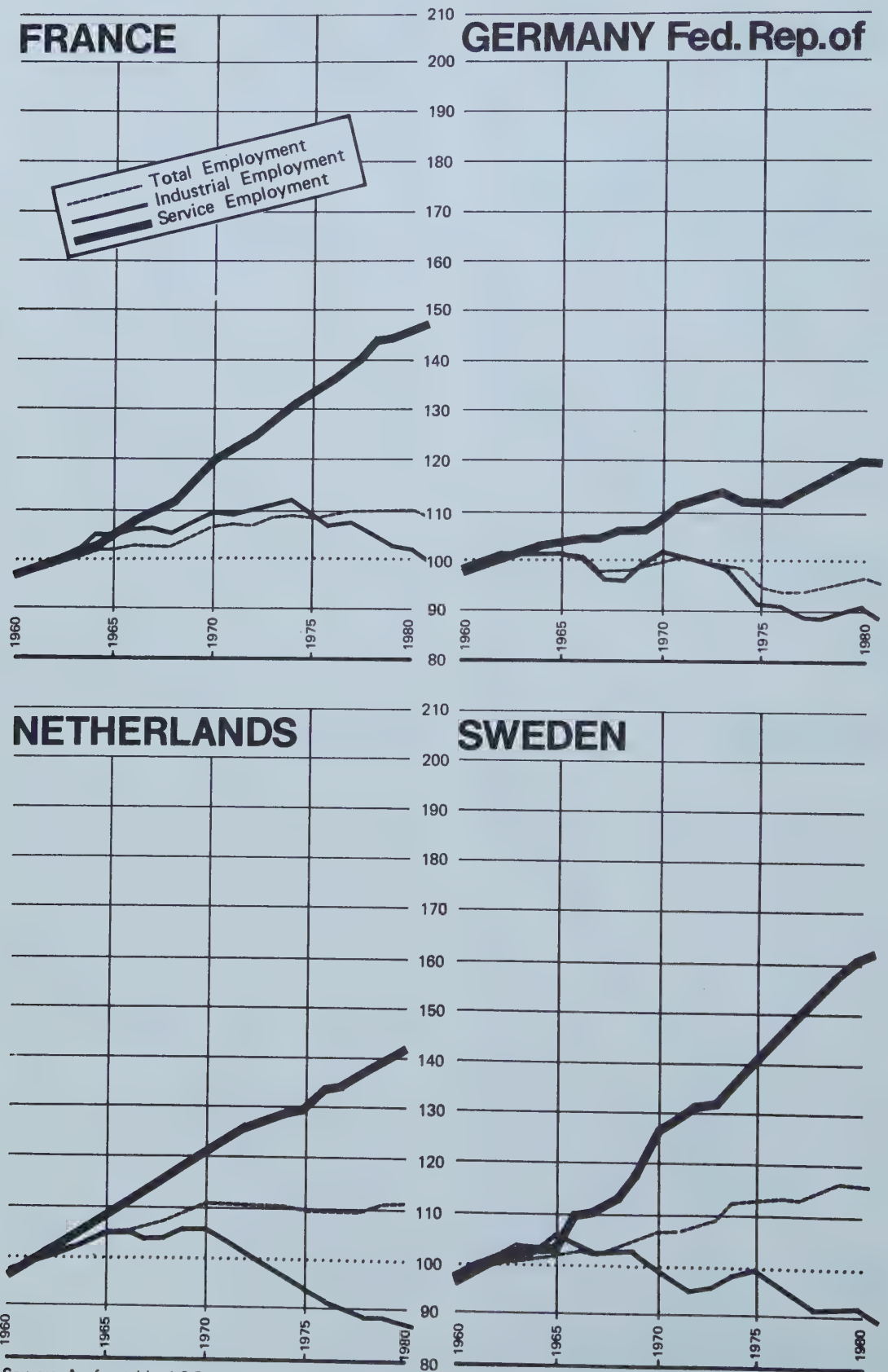
¹⁴¹ One study which analyzed changes in sectoral employment between the early 1950s and early 1960s and used a similar but inverse ratio of manufacturing employment to tertiary employment concluded that among the developed countries there was no clear tendency for employment in one sector to gain upon the other. See: Walter Galenson, "Economic Development and the Sectoral Expansion of Employment", *International Labour Review*, Vol. LXXXII, No. 6, 1963.

CHART 1.6.3.
INDEX NUMBERS OF TOTAL EMPLOYMENT, INDUSTRIAL EMPLOYMENT
AND SERVICE EMPLOYMENT
(1960-1964=100)



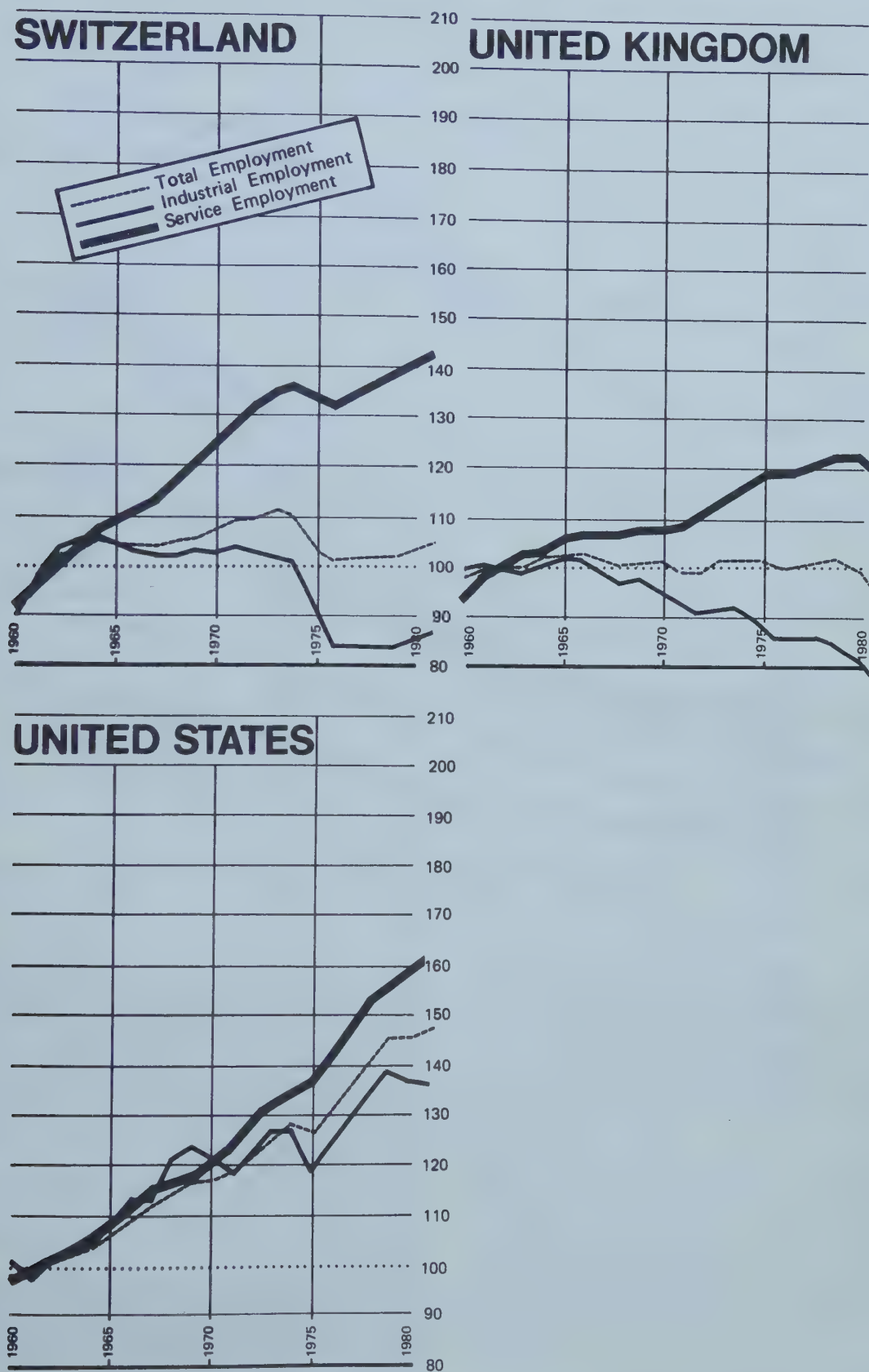
Source: As for table 1.6.5.

CHART 1.6.3.
INDEX NUMBERS OF TOTAL EMPLOYMENT, INDUSTRIAL EMPLOYMENT
AND SERVICE EMPLOYMENT (1960-1964=100)



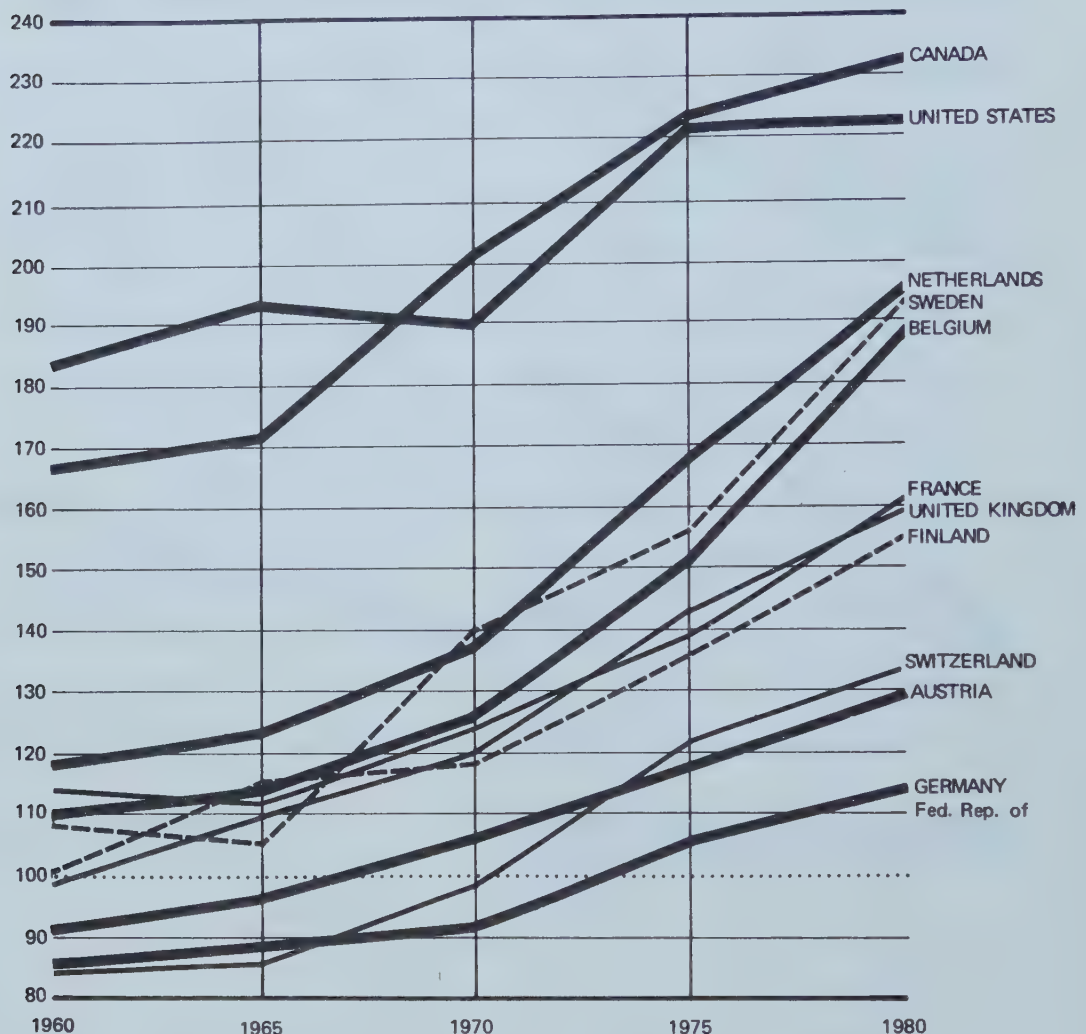
Source: As for table 1.6.5.

CHART 1.6.3
INDEX NUMBERS OF TOTAL EMPLOYMENT, INDUSTRIAL EMPLOYMENT
AND SERVICE EMPLOYMENT
(1960-1964=100)



Source: As for table 1.6.5.

CHART 1.6.4.
RATIO OF SERVICE TO INDUSTRIAL EMPLOYMENT, 1960 – 1980.



Source: chart 1.6.3.

paratively short periods.¹⁴² It is these intersectoral, as well as intrasectoral shifts in labour demand, beginning in the late 1960s, that have coincided with the onset of stagnating or declining levels of total employment. This suggests the possibility that stagnating or declining employment may partly result from the slow adjustment of labour to exogenous shifts in the sectoral demand for labour.

In addition to long-term structural relationships between the industrial and service sectors, their relative cyclical variability is also important. In general, fluctuations in service employment have tended to be much less severe than those in industry, so that the impact of falls in the latter on total employment have been dampened by the service sector. There are a number of possible reasons for this "cushioning" role of services. One of the most important is that an increasing share of total service employment has been taken by the

general government sector which has not only been relatively impervious to fluctuations in industrial output but in some cases has acted to offset them.¹⁴³ Employment in banking and other business services is also likely to be insensitive to fluctuations in industrial output (at least, over a given range of variation) while employment in certain relatively unskilled-labour intensive services, not subject to international competition, may actually increase during recessions.¹⁴⁴

Unfortunately the lack of sufficient quarterly data precludes a careful analysis of cyclical variations in service and non-service employment and of whether the relative variation in the two sectors has been changing

¹⁴² See David Lilien: "Sectoral Shifts and Cyclical Unemployment", *Journal of Political Economy*, Vol. 90, No. 4, 1982.

¹⁴³ This may occur, for example, through expanded job-support and training schemes (although employment under these is not always included in general government), public-works programmes, or through an increase in clerical workers (often on a part-time or temporary basis) to deal with the increased demand for social security, etc.

¹⁴⁴ These would tend to be relatively low-paid jobs in retailing, hotel kitchens, various personal services, and so on.

TABLE 1.6.6
Fluctuations in sectoral employment during years of total employment contraction and expansion
(Change over previous year)

	Year	Employment contraction				Employment expansion				
		Industry		Services		Industry		Services		
		Change ('000)	Percentage change	Change ('000)	Percentage change	Change ('000)	Percentage change	Change ('000)	Percentage change	
Austria	1963	-9	-0.7	14	1.1	1973	31	2.3	40	2.8
	1966	-7	-0.5	16	1.2	1974	-2	-0.2	45	3.1
	1968	-31	-2.4	8	0.6	1977	18	1.4	32	2.0
	1975	-47	-3.5	42	2.8	1980	8	0.6	7	0.4
Average			-1.8		1.4		1.0		2.1	
Belgium ^a	1967	-39	-2.5	31	1.7	1962	19	1.2	44	2.6
	1972	-31	-2.0	35	1.7	1969	28	1.8	44	2.3
	1975	-67	-4.4	18	0.8	1971	-3	-0.2	52	2.6
	1976	-42	-2.9	18	0.8	1979	-24	-1.8	69	3.0
	1981	-78	-6.1	1	0.1					
Average			-3.6		1.0		0.3		2.6	
Finland	1963	-9	-1.3	14	1.9	1970	22	3.0	31	3.6
	1968	-20	-2.8	14	1.7	1974	31	4.0	41	4.0
	1976	-50	-6.3	-4	-0.4	1979	19	2.7	20	1.8
	1977	-16	-2.1	1	0.1	1980	22	3.0	57	5.1
						1981	22	2.9	29	2.5
Average			-3.1		0.8		3.1		3.4	
France ^a	1968	-72	-0.9	189	2.1	1964	202	2.7	145	1.7
	1975	-273	-3.3	153	1.4	1970	129	1.6	309	3.2
	1981	-218	-2.9	107	0.9	1973	121	1.5	304	2.9
						1977	-33	-0.4	270	2.4
Average			-2.4		1.5		1.4		2.6	
Germany, Federal Republic of ^a	1967	-723	-5.7	24	0.2	1961	302	2.5	157	1.5
	1974	-290	-2.3	-135	-1.1	1969	433	3.6	83	0.7
	1975	-750	-6.2	-83	-0.7	1970	232	1.9	213	1.9
	1981	-228	-2.0	37	0.3	1979	121	1.1	272	2.2
Average			-4.1		-0.3		2.3		1.6	
Netherlands ^b	1972	-72	-4.1	51	2.0	1964	41	2.4	55	2.6
	1975	-57	-3.5	40	1.5	1969	30	1.7	48	2.0
	1981	-30	-3.0	-36	-1.3	1971	-20	-1.1	51	2.1
						1979	0	0.0	56	2.0
Average			-3.5		0.7		0.8		2.2	
Sweden	1967	-30	-1.9	-1	-0.1	1970	-53	-3.5	133	6.9
	1981	-40	-2.9	34	1.3	1974	38	2.7	59	2.7
						1975	16	1.1	87	3.9
						1980	3	0.2	53	2.1
Average			-2.4		0.6		0.1		3.9	
Switzerland	1965	-23	-1.6	19	1.6	1961	95	7.6	44	4.2
	1974	-27	-1.9	15	1.0	1969	14	1.0	47	3.5
	1975	-140	-10.1	-24	-1.6	1980	26	2.2	30	1.9
	1976	-76	-6.1	-20	-1.3	1981	9	0.8	31	1.9
Average			-4.9		-0.1		2.9		2.9	
United Kingdom ^a	1967	-345	-3.0	12	0.1	1961	127	1.1	721	6.4
	1971	-366	-3.4	63	0.5	1965	136	1.2	180	1.4
	1976	-278	-2.8	82	0.6	1973	169	1.6	408	3.1
	1980	-395	-4.1	-10	-0.1	1979	-22	-0.2	181	1.2
	1981	-920	-9.9	-376	-2.6					
Average			-4.6		-0.3		0.9		3.0	
Canada ^{a,c}						1966	131	5.7	203	5.4
						1973	153	6.0	264	5.0
						1978	84	3.0	220	3.4
						1981	54	1.8	209	2.9
Average							4.1		4.2	
United States ^a	1975	-1906	-6.8	1062	1.9	1966	1289	5.4	1300	2.8
						1969	637	2.4	1526	3.1
						1973	1459	5.5	1355	2.5
						1979	1034	3.5	1759	2.7
						1981	-122	-0.4	1266	1.9
Average			-6.8		1.9		3.3		2.6	

Sources: National statistics; OECD Labour Force Statistics, Paris, various issues; Secretariat estimates.

^a Includes Armed forces.

^b Man-years.

^c There was no year of employment contraction between 1960-1981.

over time. What has been done here is simply to take years in which total employment has increased or fallen and examine the relative movements in service and industrial employment in those years. The results of this exercise are shown in table 1.6.6, which presents absolute as well as percentage changes in industrial and service employment during periods of total employment contraction and expansion. The data indicate that industrial workers are more susceptible to recession-induced layoffs and firings and less prone to expansion-induced hirings. During periods of employment contraction, the number of jobs lost in industry has consistently exceeded the jobs lost in services and quite often even the number of service jobs gained, while during employment expansion the creation of new service jobs has usually exceeded the number of new industrial jobs. In general, industry is more sensitive to periods of employment contraction than to expansion. In nine of the countries the average percentage decline in the goods-producing sector when employment contracted, exceeded the average percentage increase when employment expanded. This is most probably due to the fact that the employment declines in industry are affected in many cases by a negative trend as well as a downward cyclical deviation from that trend. Only in Finland was the average percentage increase during expansion of the same magnitude as the average percentage decline during contraction. Service employment, with an underlying positive trend, responds in precisely the opposite manner. In the ten countries, the average annual percentage increase in service-producing employment was always larger when employment grew than when it fell.¹⁴⁵

The degree to which the change in service sector employment has dampened or offset the decline of employment in the rest of the economy can be seen to vary widely, both between countries and within individual countries over time (table 1.6.6).

While in Austria, Belgium, France, and the United States the service sector has consistently cushioned the effects of employment declines, during some periods in Finland, the Federal Republic of Germany, the Netherlands, Sweden, Switzerland and the United Kingdom, services have in fact contributed to the decline in total employment. While table 1.6.6 indicates that the service sector has modified the severity of employment declines, there is also evidence to suggest that its 'cushioning' role may be weakening. For example, from table 1.6.6 it is clear that in Belgium,¹⁴⁶ France and the Netherlands the rate of service employment growth during years of employment contraction has declined in recent years. There are other indications that the cyclical pattern of employment is modifying. This appears to be the case in Austria, Belgium, Sweden and the United Kingdom, where the more recent declines in the industrial work

force during employment contractions have been larger than the earlier ones.

The role of services as a 'shock absorber' in the current recession has changed considerably since the previous recession of 1975, but the changes are by no means uniform across countries. In several countries the cushioning role of services appears to have been maintained. In Austria, Finland, the Federal Republic of Germany, Switzerland and the United States in 1975 (1976 for Finland) losses in total employment due to declines in industrial employment exceeded gains in service employment. In 1981 four of these countries (excluding the Federal Republic of Germany) there were gains in total employment as a result of substantial gains in services, as well as small gains in industrial employment in Finland and Switzerland. In the Federal Republic of Germany a significant decline in employment (226,000 jobs) in 1981 would have been further aggravated were it not for a 37,000 increase in service employment. In 1975 10 per cent of the total job loss in the Federal Republic of Germany was a result of jobs lost in services. Elsewhere the service sector as 'shock absorber' has weakened. In Belgium the ability of services to cushion the overall employment contraction shrank: in 1975 the increase in service jobs amounted to 25 per cent of the fall in non-service employment; in 1981 the proportion had fallen to one per cent. In the Netherlands in 1975 more than half of the decline in employment was offset by gains in service employment, but in 1981 services contributed more than half of the total loss of 70,000 jobs. In Sweden a gain of total employment in 1975 was transformed to a net decline in 1981, the addition of 34,000 new service sector workers not being large enough to compensate for the loss of 40,000 industrial jobs. In the United Kingdom the cushion collapsed completely in 1981, with one-third of the 1.3 million jobs lost coming from the service sector. In 1975 the reason for the relatively small drop in employment of 75,000 in the United Kingdom was the addition of 369,000 jobs in services.

The extent to which longer-run changes in the structure of service employment may have been a factor in this changing response to recession is considered in the following section.

1.6(iii) Changes in the structure of employment in the service sector

The previous section considered changes in the distribution of total employment between the two broad sectors of industry and services. The present section turns to changes in the structure of service employment but in order to do so it is necessary to switch to a different set of statistics. The previous section is based for the most part on labour force statistics which are based on periodic labour force surveys. However service employment is broken down into more detail in the national accounts employment data and for this reason they are used in this section. This means that there is not complete agreement between the data of this and the previous section, but the degree of comparability is such that the underlying trends in service and non-service employment are virtually the same.

In this section the service sector is disaggregated into the following:

(a) wholesale and retail trade (excluding restaurants and hotels, which are included in other private services); (b) transport and communications; (c) financial institutions, insurance, real estate and business services; (d) other private services, consisting of personal services, recreation, etc. (e) public service sector, which includes

¹⁴⁵ It will also be noted in table 1.6.6 that a year of contraction has always been immediately followed by either another year of employment losses or employment stagnation and that the time lag between employment decline and employment recovery has been a minimum of two years. This of course reflects the fact that stagnating or declining employment has been a normal cyclical feature of the first year of cyclical recovery when increases in output per person employed are exceptionally large. Factors that may explain the delay in employment recovery are labour hoarding and employment support measures on the part of governments.

¹⁴⁶ An analysis of unemployment by sector for Belgium, one of the few countries to provide such a series comparable both over time and with data on employment, indicates that while unemployment rates for industrial workers have been approximately 2 1/2 times those of service workers, service workers are making up an increasing share of the total number of unemployed. Between 1976 and 1981, the only years for which data are available, the proportion of the unemployed that had been working in industry dropped from 60.5 per cent to 54.7 per cent, whereas the proportion of unemployed who had been working in services jumped from 31.5 to 37.3 per cent.

TABLE 1.6.7

Growth of employment in the public sector and its contribution to total service employment growth, 1960-1980
(Percentages)

	Average annual rate of growth of:				Share in total service employment	Contribution in total employment growth in services	
	Employment		Share in total service employment			1960-1970 ^a	1970-1980
	1960-1970 ^a	1970-1980	1960-1970 ^a	1970-1980	1980		
Austria	2.4	3.2	1.3	1.1	34.8	64.7	49.7
Belgium	2.7	2.1	0.9	0.1	32.4	45.2	34.4
Denmark	6.1	5.2	3.2	2.7	46.2	72.0	85.9
Finland	2.7	2.4	-0.1	0.8	42.2	37.6	63.1
France	0.4	1.3	-1.4	-0.5	31.7	8.4	23.4
Germany, Fed. Rep. of	2.4	2.5	1.1	1.3	36.4	57.1	72.2
Ireland	2.2	4.3	1.1	1.8	38.4	60.5	61.0
Italy	1.7	2.6	0.0	0.4	34.7	33.9	41.1
Netherlands	1.0	1.8	-1.6	0.2	26.1	10.1	29.9
Norway	3.2	3.7	1.0	1.4	43.8	52.6	66.1
Sweden	4.3	4.4	1.7	2.0	50.2	63.2	83.9
Switzerland ^b	3.5	1.7	0.4	0.4	14.3	15.2	19.1
United Kingdom	1.2	1.6	0.2	0.4	36.3	40.2	46.4
Weighted average ^c	1.6	2.0	0.0	0.6	34.9	32.5	48.0
United States ^d	2.6	0.7	-0.1	-1.8	28.8	32.8	8.6

Sources: See Appendix to this section.

^a Austria: 1964-1970; Belgium: 1960-69; Denmark: 1966-70; Ireland: 1961-70; Italy: 1963-70.

^b Includes only Public Administration and Education; all other public sector services are included in "Other private services".

^c Weighted average of eight countries: Finland, France, Germany, Fed. Rep. of, Netherlands, Norway, Sweden, Switzerland, United Kingdom.

^d Public sector includes Government enterprises which elsewhere are distributed by economic activity. Public services and total services exclude sanitary services. Public sector also excludes private non-profit services to households which are included in "Other private services".

general government, services for households and the producers of private non-profit services to households. For the majority of the countries the existing data do not allow for a more detailed breakdown than these five branches. A more detailed breakdown is available for seven countries (eight to eleven branches) and the analysis based on this greater detail is given separately. Differences in branch definitions mean of course that cross-country comparisons must be made with caution: nevertheless the broad conclusions drawn here are not thought to be very sensitive to these problems of definition.

Employment in services in western Europe (weighted average excluding Austria, Belgium, Denmark, Ireland and Italy), on a national accounts basis, increased by 1.6 per cent per annum between 1960 and 1970 and by 1.2 per cent per annum between 1970 and 1980. The deceleration after 1970 would have been greater if the growth of public sector employment had not accelerated during the 1970s.

Public sector employment in western Europe increased between 1960 and 1980 by 1.8 per cent a year, with an acceleration during the 1970s. However, as table 1.6.7 shows, the growth of public sector employment varied considerably among countries during both periods. The highest growth rates were in Denmark, Sweden and Norway, for the whole period, and lowest in France, Netherlands, Italy (1960s) and Switzerland (1970s). Its growth rate decelerated sharply during the 1970s only in Switzerland and, to a much lesser extent, in Belgium, Finland and Denmark. The growth in the public sector's share during the 1970s decelerated in Belgium and, moderately, in Denmark and Austria; it declined only in France. During the 1960s, due to the faster growth of private services in France and the Netherlands, the share of the public sector in these two countries declined. Everywhere else the employment share of the public sector was already increasing in the 1960s and, as the last two columns of table 1.6.7 show, the public sector accounted for roughly one-third of the growth in total service employment during the 1960s. During the 1970s,

total service employment in western Europe grew by 2.0 per cent (10 million) and nearly half of this growth was due to the public sector with its share in total service employment in 1980 amounting to some 35 per cent (compared with 33 per cent in 1960). In Denmark and Sweden the public sector accounted for around 85 per cent of the rise in service employment and in Finland, Ireland and Norway its share was more than 60 per cent.

In the United States, the growth of public sector employment, as well as its share and its contribution to total service employment growth was quite different from the average west European experience. During the 1970s the growth of the public sector decelerated sharply and its share declined by 1.8 per cent a year. In 1980 its share was 6 percentage points lower than the west European average.¹⁴⁷

Between 1960 and 1980, for eight west European countries combined (that is, excluding Austria, Belgium, Denmark, Ireland and Italy), the private sector's share in total service employment fell by 2 percentage points, with almost all of the decline occurring during the 1970s.

As table 1.6.8 demonstrates, the growth of employment in the private service sector decelerated during the 1970s for western Europe as a whole. It accelerated only in Austria, Belgium, Ireland and Italy and was stable in the United Kingdom. In certain countries, the deceleration was considerable: in Finland and Switzerland the rate of growth was one-third of that in the 1960s and in Denmark, the Netherlands and Sweden it was lower by one half.

The private sector's share of total employment in services during the 1970s declined in all countries except France, where it grew at a slower rate. Even where the private sector's share was already falling during the

¹⁴⁷ General government data for the United States include government enterprises which are distributed by economic activity in western Europe and thus excluded from general government. Therefore, the share of the public sector in the United States would be even smaller if it were calculated on the same basis as the European figures.

1960s, its decline was still sharper during the 1970s (except in Austria and Belgium).

The United States' experience contrasts sharply with that of western Europe: the growth of employment in the private service sector during the 1960s was significantly higher than the west European average and it accelerated during the 1970s.

Long-run changes in the structure of service employment

In addition to its loss of share of total service employment, the composition of the west European private sector changed significantly between 1960 and 1980. While trade and transport and communications lost around 5 and 4 percentage points respectively of their share in total private services over the 20-year period, the share of financial institutions, insurance, real estate and business services increased by 5 points and the share of "other private services" rose by 4 points. The following paragraphs examine this change in the composition of private services in more detail.

The structure of employment is defined simply as the percentage distribution of total employment among the given number of branches of the service sector, and "structural change" refers to changes in this distribution. One way of discussing structural change is to focus on changes in branch shares between selected years, but this approach is affected by differences in the cyclical situation of single years and by random movements in share. An alternative method is to isolate the underlying rates of change by fitting time trends to the annual data for individual branch shares of total service employment between 1965 and 1981. Time trends were fitted separately for the 1971–1981 period in order to identify any change in trend during the 1970s. The results of this exercise are summarized in table 1.6.9, where the service sector in 13 countries is divided into five branches. A characteristic of the table is that the regression coefficients sum to zero, since higher than average growth in some sectors must be offset by less than average growth in others.¹⁴⁸

From table 1.6.9 it can be seen that the main changes in the structure of service employment have been declining shares of trade, transport, and communications and increasing shares of financial, business and public services. The share of trade, transport and communications declined throughout the whole 1965–1981 period in all countries except the United States, where the share of trade increased in both periods, and in France, where the share of transport and communications increased during 1971–1981. Table 1.6.10, which presents a similar exercise for a more detailed breakdown of total services but for fewer countries and for a more limited period, indicates that the employment share of communications was fairly stable and that it was transport which lost share. Table 1.6.10 shows also that it was only in the United States that the share of retail trade increased. In the other three countries for which the breakdown was feasible, the share of retail trade fell, and in Sweden and Finland the fall in the aggregate trade share was largely due to the sharp decline of employment in the retail trade sector.

In contrast to trade and transport, the share of financial and business services increased in all 10 countries throughout the 1965–1981 period. During the 1970s, apart from Sweden, their share continued to

TABLE 1.6.8

Growth of employment in the private service sector, 1960–1980

	Average annual rate of growth of:			
	Employment		Share in total service employment	
	1960–1970 ^a	1970–1980	1960–1970 ^a	1970–1980
Austria	0.6	1.6	–0.6	–0.5
Belgium	1.5	1.9	–0.4	–0.1
Denmark	1.1	0.6	–1.6	–1.8
Finland	2.8	0.9	0.1	–0.6
France	2.7	2.1	0.8	0.3
Germany, Fed. Rep. of	0.8	0.5	–0.5	–0.7
Ireland	0.6	1.5	–0.5	–1.0
Italy	1.6	1.9	0.0	–0.2
Netherlands	3.3	1.5	0.6	–0.1
Norway	1.6	1.3	–0.6	–1.0
Sweden	1.5	0.7	–1.0	–1.6
Switzerland	3.0	1.1	–0.1	–0.1
United Kingdom . . .	1.0	1.0	–0.1	–0.2
Weighted average ^b . .	1.6	1.2	0.0	–0.3
United States	2.9	3.4	0.1	0.8

Sources: See Appendix.

^a Austria: 1964–1970; Belgium: 1960–1969; Denmark: 1966–1970; Ireland: 1961–1970; Italy: 1963–1970.

^b Weighted average of eight countries: Finland, France, Germany, Fed. Rep. of, Netherlands, Norway, Sweden, Switzerland, United Kingdom.

increase although at a lower rate, except in the United States and Finland where it accelerated. This acceleration in the United States during the 1970s was mostly due to gains in business services, whereas in Switzerland all the gain was due to financial institutions and to a lesser extent, to insurance (table 1.6.10). Business services were responsible for more than two-thirds of the change within the broader group of financial services in Finland and the Netherlands, and for 47 per cent in Denmark.

Changes in the employment share of 'other private services' was much less uniform among countries and over time. It increased sharply in France throughout the 1965–81 period (accelerating during the 1970s) but fell sharply in Sweden, Denmark, Austria, Switzerland (1965–1981) and in Finland (1971–1981). Its share increased strongly in the United Kingdom (with an acceleration in the 1970s) and in the Netherlands.

One of the most striking features of table 1.6.9 is the important role played by the public sector in the changing structure of service employment. In Sweden, 50 per cent of the change in the structure of service employment during both time spans is attributable to the public sector.¹⁴⁹ In Denmark and Norway it was more than two-fifths and in Austria, the Federal Republic of Germany and Finland (during the 1971–1981 period) the public sector contributed more than one-third of the total change. On the other hand, in Belgium, Italy, the Netherlands, Switzerland and the United Kingdom its role was less important. It was only in the United States, sharply, and in France, to a much lesser extent, that the public sector's share fell throughout the period, with an acceleration during the 1970s. Within the public sector, table 1.6.10 shows that in all of the west European countries, general government's share was the one on the increase, compensating and surpassing to a large extent the diminishing employment share of other public

¹⁴⁸ For further discussion of this method and the problems involved, see Economic Commission for Europe, *Economic Survey for Europe in 1981*, United Nations, New York, 1982, where the same method is applied for manufacturing output employment, and trade. The regression coefficients express the change in branch shares in terms of percentage points a year.

¹⁴⁹ The overall change in structure is given by the absolute sum of the regression coefficients. For further discussion and interpretation of this approach see the Secretariats' previous studies *Structure and Change in European Industry*, United Nations, New York, 1977 and *Economic Survey of Europe in 1980*, United Nations, New York, 1981, p.202.

TABLE 1.6.9

Linear time trends in the branch shares of total service employment, 1965-1981: regression coefficients on time^a

	Trade	Transport communication	Financial, business, etc.	Other private services	Public services
1965-1981 ^b					
Austria	-0.215	-0.180	0.194	-0.236	0.436
Belgium ^c	..	..	..	..	..
Denmark	-0.695	-0.234	0.204	-0.316	1.041
Finland	-0.409	-0.214	0.186	0.053	0.294
France ^d	-0.237	-0.111	0.112	0.394	-0.158
Germany, Fed. Rep. of ^e	-0.392	-0.141	0.071	0.047*	0.415
Italy ^c	..	..	..	..	..
Netherlands	..	..	..	..	..
Norway ^e	-0.254	-0.426	0.130	0.020	0.638
Sweden	-0.432	-0.187	0.004	-0.323	0.945
Switzerland ^f	-0.155	-0.090	0.261	-0.107	0.092
United Kingdom	-0.323	-0.187	0.157	0.189	0.164
United States ^g	0.075	-0.078	0.259	0.244	-0.500
1971-1981 ^h					
Austria	-0.191	-0.184	0.143	-0.140	0.372
Belgium ^c	-0.451	-0.088	0.001*	0.454	0.083
Denmark	-0.737	-0.163	0.190	-0.256	0.966
Finland	-0.422	-0.074	0.188	-0.144	0.452
France ^d	-0.229	0.082	0.059	0.436	-0.184
Germany, Fed. Rep. of ^e	-0.395	-0.196	0.010	0.171	0.409
Italy ^c	-0.119	-0.064	0.095	0.031	0.057
Netherlands	-0.342	-0.114	0.144	0.226	0.086
Norway ^e	-0.209	-0.314	0.073	0.025*	0.500
Sweden	-0.409	-0.141	-0.055	-0.247	0.851
Switzerland ^f	-0.207	-0.074	0.104	0.104	0.073
United Kingdom	-0.229	-0.171	0.083	0.220	0.096
United States ^g	0.083	-0.074	0.305	0.232	-0.546

^a Regression coefficients which are not significant at 5 per cent or above (on the basis of a two-tailed t-test) are marked with an asterisk.^b Austria: 1965-1979; Denmark: 1966-1981.^c Real estate and business services are included in "other private services".^d Business services are included in "other private services".^e Trade includes restaurants and hotels.^f As for footnote b in table 1.6.7.^g As for footnote d in table 1.6.7.^h Austria: 1971-1979; Belgium: 1971-1980.

TABLE 1.6.10

Linear time trends in the branch shares of total service employment, 1971-1981: regression coefficients on time^a

	United States ^a	Sweden	Switzerland ^c	Finland	Denmark	Netherlands	Germany, Fed. Rep. of ^d
Wholesale	0.018	-0.017*	-0.153	-0.099*	-0.737	-0.342	-0.395
Retail	0.065	-0.392	-0.053	-0.324			
Transport	-0.066	-0.116	-0.063	-0.071	-0.167	-0.132	-0.154
Communication	0.008*	-0.025	-0.011	-0.003*	0.005	0.018	-0.042
Financial, business, etc.	0.052	-0.026	0.132	0.062	0.096	0.039	0.024
Insurance	0.013	-0.015	0.054				
Real estate	0.017	-0.028	0.006	0.000	0.004	0.105	0.171
Business services	0.223	0.015	-0.088	0.126	0.090		
Other private	0.232	-0.247	0.104	-0.144	-0.256	0.226	0.319
General Government	-0.355	0.998	0.073	0.974	1.082	0.162	
Other public	-0.191	-0.147		-0.523	-0.116	-0.076	0.090

^a As for table 1.6.9.^b See table 1.6.9, footnote g.^c See table 1.6.9, footnote f.^d See table 1.6.9, footnote c.

service producers,¹⁵⁰ except in the Federal Republic of Germany, where the share of the latter increased slightly.

A summary measure of the degree of change in the structure of employment in the service sector, implied by

¹⁵⁰ Other public services¹ actually consists of household services and private non-profit services to households.

the coefficients in table 1.6.9, is given in table 1.6.11. The highest rate of structural change during the 1965-1981 period was in Denmark (12.5 points), Sweden (9.5 points) and Norway (7.3 points). The rate of change has been particularly slow in Switzerland (3.5 points), whereas for the remaining countries it is around 5 to 6 points. In general the overall pace of change in the

structure of service employment slowed down during the 1970s, the exceptions being Finland, the Federal Republic of Germany and the United States: in France the degree of change remained virtually unchanged.

Even though there has been some deceleration in the 1970s in the pace of change, the structure of employment in the west European service sector has been persistently and steadily moving away from the branch patterns which prevailed at the beginning of the 1960s. In addition to its loss of share in total service employment, the composition of the west European private service sector changed significantly during the period 1960–1980, as table 1.6.12 shows for the weighted average of the seven west European countries. While the share of trade and transport and communications in total services declined by 6 and 3 percentage points respectively over the 20-year period, the share of financial institutions, insurance, real estate and business services increased from 6 per cent in 1960 to 8.5 per cent in 1980. The share of other services also increased by 4 points: however, a part of this sector's gain in share is due to the inclusion of business services in France and the Federal Republic of Germany and health services of Switzerland in this sector due to data constraints. Table 1.6.12 therefore probably understates the relative gain of financial and business services.

Cyclical aspects of employment in services

As was shown in the previous section, cyclical variations in service employment have generally tended to be much less than in industry and for this reason services have often been regarded as providing a 'cushion' to falls in industrial employment, either in the sense of dampening the impact of fluctuations in the latter on total employment or of actually offsetting part of the loss of industrial jobs. The previous section drew attention to a number of changes in the 'shock-absorbing' role of services in the aggregate; table 1.6.13 enables the role of different service sectors to be isolated. (Because of the different statistical sources used here the data for industry and total services are also given in the table - these differ from the aggregates given in the

TABLE 1.6.11

The rate of structural change: 1965–1981 and 1971–1981^a
(10-year rate of change in percentage points)

	1965–1981 ^a	1971–1981 ^c
Austria	6.3	5.2
Belgium	..	5.4
Denmark	12.5	11.6
Finland	5.3	6.4
France	5.1	5.0
Germany, Federal Republic of	5.3	5.9
Italy	..	1.8
Netherlands	..	4.6
Norway	7.3	5.6
Sweden	9.5	8.5
Switzerland	3.5	2.8
United Kingdom	5.1	4.0
United States	5.8	6.2

Source: Table 1.6.9.

^a The rate of structural change is defined as half the absolute sum of the regression coefficients (in table 1.6.9) multiplied by 10.

^b Austria: 1965–1979; Denmark: 1966–1981.

^c Austria: 1971–1979; Belgium: 1971–1980.

TABLE 1.6.12

Branch shares of total service employment in western Europe, 1960 and 1980^a
(Percentages)

	1960	1980
Private services	66.9	64.7
Trade	28.4	22.7
Transport and communication	14.1	11.0
Financial, business, etc.	6.0	8.5
Other private services ^b	18.5	22.5
Public services	33.1	35.3

^a Weighted average of seven countries: Finland, France, Federal Republic of Germany, Norway, Sweden, Switzerland, United Kingdom.

^b Includes business services and real estate for the Federal Republic of Germany, business services for France, and public services other than public administration and education in Switzerland.

TABLE 1.6.13

Change in sectoral employment during years of contraction in industrial employment

A: Annual change in thousands

B: Percentage change from previous year

	Total economy		Industry		Total services		Private services		Financial, business, etc.		Public services	
	A	B	A	B	A	B	A	B	A	B	A	B
Austria												
1967	-54.3	-1.7	-39.7	-3.0	15.1	1.2	2.7	0.3	3.1	2.5	12.4	3.3
1968	-39.0	-1.3	-31.6	-2.5	11.3	0.9	2.8	0.3	3.6	2.8	8.5	2.2
1975	-14.2	-0.4	-43.7	-3.2	42.1	2.8	19.8	2.0	5.7	3.3	22.3	4.5
1981	2.6	0.1	-25.9	-2.0	33.5	2.0	17.6	1.6	..	..	15.9	2.7
Belgium												
1967	-11.0	-0.3	-32.0	-2.1	28.0	1.5	13.0	1.0	3.0	3.6	15.0	2.5
1972	-4.0	-0.1	-31.0	-2.0	38.0	1.9	24.0	1.7	2.0	2.0	14.0	2.2
1975	-52.0	-1.4	-65.0	-4.3	17.0	0.8	15.0	1.0	1.0	1.0	2.0	0.3
1976	-25.0	-0.7	-44.0	-3.1	27.0	1.2	11.0	0.7	0.0	0.0	16.0	2.3
1978	2.0	0.1	-46.0	-3.4	52.0	2.3	26.0	1.7	2.0	1.8	26.0	3.6
1980	-4.0	-0.1	-30.0	-2.3	33.0	1.4	23.0	1.4	2.0	1.8	10.0	1.3
Denmark												
1967	14.0	0.6	-10.0	-2.5	50.0	4.6	9.0	1.2	5.0	4.9	41.0	12.1
1971	12.0	0.5	-27.3	-3.4	50.9	4.2	11.0	1.4	7.9	6.3	39.9	9.3
1974	-7.8	-0.3	-30.1	-3.8	27.1	2.0	1.8	0.2	5.4	3.7	25.0	4.7
1975	-30.0	-1.3	-53.4	-7.0	28.1	2.0	1.8	0.2	5.6	3.7	26.0	4.7
1980	-11.2	-0.5	-21.9	-3.0	16.4	1.1	-10.2	-1.2	5.7	3.1	26.7	3.9
1981	-46.0	-1.9	-46.0	-6.6	2.8	0.2	-21.8	-2.6	1.1	0.6	24.5	3.4

TABLE 1.6.13 (CONTINUED)

	Total economy		Industry		Total Services		Private Services		Financial, business, etc.		Public services	
	A	B	A	B	A	B	A	B	A	B	A	B
Finland												
1968	-26.5	-1.2	-9.7	-1.5	20.9	2.2	4.5	0.8	1.9	2.7	16.4	4.6
1975	-10.1	-0.5	-4.7	-0.6	14.7	1.3	8.9	1.3	7.0	7.1	5.8	1.4
1976	-16.5	-1.2	-21.4	-2.7	6.7	0.6	-4.9	-0.7	1.3	1.2	11.6	2.7
1977	-52.3	-2.4	-23.2	-3.0	-2.8	-0.2	-13.9	-2.1	1.0	0.9	11.1	2.5
1978	-37.6	-1.7	-27.1	-3.7	8.0	0.7	-5.2	-0.8	0.6	0.5	13.2	2.9
France												
1968	-42.0	-0.2	-74.2	-1.0	183.5	1.9	132.3	2.1	20.8	6.3	51.2	1.6
1975	-225.2	-1.0	-247.8	-3.1	111.7	1.0	51.9	0.7	19.1	3.6	59.8	1.6
1978	87.1	0.4	-128.2	-1.7	262.2	2.2	196.9	2.5	14.3	2.5	65.3	1.7
1979	-23.1	-0.1	-122.5	-1.6	137.8	1.1	130.5	1.6	7.8	1.3	7.3	0.2
1981	-250.9	-1.2	-319.4	-4.2	95.1	0.8	74.5	0.9	3.4	0.6	20.6	0.5
Germany, Fed. Rep. of												
1967	-869.0	-3.3	-770.0	-5.9	53.0	0.5	-38.0	-0.5	23.0	4.5	87.0	2.6
1974	-493.0	-1.9	-458.0	-3.6	37.0	0.3	-81.0	-1.0	16.0	2.4	118.0	3.0
1975	-889.0	-3.4	-774.0	-6.3	-56.0	-0.5	-141.0	-1.8	-5.0	0.7	85.0	2.1
1981	-192.0	-0.7	-263.0	-2.3	107.0	0.8	52.0	0.6	0.0	0.0	55.0	1.2
Italy												
1965	-407.8	-2.0	-251.6	-3.4	-140.3	-1.8	-169.3	-3.2	..	..	29.0	1.2
1966	-303.2	-1.5	-100.0	-1.4	90.3	1.2	32.3	0.6	..	..	58.0	2.3
1972	-219.0	-1.1	-127.2	-1.7	167.2	2.0	81.2	1.4	11.6	5.6	86.0	2.9
1975	30.9	0.2	-23.8	-0.3	181.7	2.0	85.1	1.4	18.7	7.6	96.0	3.0
1981	93.0	0.4	-54.0	-0.7	252.0	2.4	202.0	3.0	8.6	2.6	50.0	1.4
Netherlands												
1961	61.0	1.5	-49.0	-2.9	126.0	6.3	118.0	8.4	..	..	8.0	1.3
1967	-14.0	-0.3	-56.0	-3.1	51.0	2.1	43.0	2.5	..	..	8.0	1.3
1972	-40.0	-0.8	-64.0	-3.7	29.0	1.1	13.0	0.7	6.0	2.2	16.0	2.4
1975	-31.0	-0.7	-56.0	-3.4	30.0	1.1	18.0	0.9	5.0	1.7	12.0	1.7
1976	-7.0	-0.2	-43.0	-2.7	40.0	1.4	21.0	1.0	7.0	2.4	19.0	2.6
1981	-60.0	-1.3	-70.0	-4.7	14.0	0.5	0.0	0.0	6.0	1.8	14.0	1.8
Norway												
1975	-1.7	-0.1	-7.5	-1.3	10.9	1.2	0.2	0.0	1.0	1.4	10.7	3.0
1979	10.8	0.6	-8.5	-1.5	18.1	1.9	6.5	1.2	4.0	4.9	11.6	2.8
1981	8.8	0.5	-8.0	-1.5	19.8	1.9	5.8	1.0	2.0	2.3	14.0	3.1
Sweden												
1967	-40.2	-1.1	-32.8	-2.2	25.0	1.3	0.5	0.0	6.9	4.6	24.5	3.5
1971	-7.6	-0.2	-59.2	-4.1	67.7	3.2	18.6	1.5	10.3	5.9	49.1	5.6
1977	-0.5	0.0	-45.5	-3.3	53.1	2.2	9.8	0.7	3.6	1.8	43.3	3.8
1981	-6.0	-0.1	-38.7	-2.9	32.9	1.2	-1.5	-0.1	-2.0	-0.9	34.4	2.5
Switzerland												
1965	-20.9	-0.7	-23.6	-1.6	18.3	1.5	13.1	1.2	3.8	2.7	5.2	3.3
1966	-11.4	-0.4	-22.2	-1.5	21.0	1.7	17.3	1.6	4.6	3.2	3.7	2.3
1975	-170.1	-5.3	-139.7	-10.0	-24.3	-1.6	-25.8	-1.9	-15.5	-6.4	1.5	0.7
1976	-98.8	-3.3	-76.4	-6.1	-20.1	-1.3	-23.0	-1.6	-3.2	-1.4	2.9	1.3
United Kingdom												
1963	29.0	0.1	-113.0	-1.0	149.0	1.2	21.0	0.3	33.0	2.6	128.0	3.1
1967	-363.0	-1.4	-345.0	-2.9	15.0	0.1	-106.0	-1.3	27.0	2.0	121.0	2.7
1971	-354.0	-1.4	-371.0	-3.4	63.0	0.5	-47.0	-0.6	20.0	1.3	110.0	2.4
1975	-78.0	-0.3	-444.0	-4.2	378.0	2.7	141.0	1.6	5.0	0.3	237.0	4.7
1976	-195.0	-0.8	-253.0	-2.5	57.0	0.4	2.0	0.0	0.0	0.0	55.0	1.0
1980	-400.0	-1.6	-383.0	-4.0	-20.0	-0.1	5.0	0.1	28.0	1.5	-25.0	-0.5
1981	-1302.0	-5.3	-907.0	-9.8	-385.0	-2.6	-363.0	-3.9	-12.0	-0.6	-22.0	-0.4
United States												
1970	-197.0	-0.2	-895.0	-3.4	764.0	1.3	752.0	2.0	205.0	3.1	12.0	0.1
1971	-169.0	-0.2	-770.0	-3.0	661.0	1.1	732.0	1.9	106.0	1.5	-71.0	-0.4
1975	-1630.0	-1.7	-2208.0	-8.3	652.0	1.0	343.0	0.8	-2.0	0.0	309.0	1.5
1980	539.0	0.5	-888.0	-3.2	1326.0	1.8	1106.0	2.1	493.0	4.7	220.0	1.0
1981	921.0	0.9	-106.0	-0.4	1022.0	1.4	1039.0	2.0	466.0	4.3	-17.0	-0.1

previous section, for the reasons already given.) The years shown in table 1.6.13 are the major years of recession in industrial (not total) employment.

If a comparison is made of the growth rates of service employment during the downturns following the two oil shocks, it can be seen that except for the Federal Republic of Germany, Italy, Norway and the United States, service employment has grown more slowly

during the current downturn. (For Finland and Switzerland there was no absolute fall in industrial employment during 1980-1981.) In the United Kingdom service employment declined in 1981 whereas in 1975 it had risen strongly. Within services it can be seen that the public sector, which had been the main subsector of services maintaining a high rate of growth during years of contraction (and in some countries during certain

years when total service employment fell, such as in Finland 1977; the Federal Republic of Germany 1975; Switzerland 1975, 1976), lost its momentum after 1979 (with the exception of Norway). In the United Kingdom public sector employment actually fell by 47,000 (cumulative) or by around -0.5 per cent per annum during 1980-1981. However, notwithstanding its lower growth due to policies restraining the growth of government spending, public sector employment still grew faster than the private service employment in all countries except Belgium, France, Italy and the United States. In Denmark, where private sector employment contracted sharply, and in the Netherlands, where the private sector did not grow at all, the growth in total service employment was entirely due to the increase of public sector employment despite its lower growth rate in both countries.

Employment growth in private services, which is likely to be more sensitive than the public sector to changes in industrial activity, has generally decelerated in the current recession compared with that of 1974-75: exceptions are the Federal Republic of Germany, Italy, Norway and the United States. In 1981 it declined slightly in Sweden (0.1 per cent) and sharply in Denmark (2.6 per cent) and the United Kingdom (3.9 per cent). Within the private sector, employment in financial, insurance, real estate and business services, which has been fairly resilient to industrial downturns in the past has also grown more slowly in the current recession in all countries except the United States, where it grew sharply (by around 4.5 per cent during 1980-1981) in contrast to its zero growth rate in 1975, and to a much lesser extent in Belgium (1.8 per cent). In Sweden and the United Kingdom employment in these services declined slightly.

Except in Austria, Italy, the Federal Republic of Germany and the United States, the cushioning role of the service sector, measured as the rate at which new jobs in the service sector offsets the number of jobs lost in the rest of the economy, weakened everywhere during 1981. In Austria, while service sector employment in 1981 grew less than during 1975, owing to a much weaker employment contraction in the rest of the economy during 1981, new service jobs in 1981 not only offset the jobs lost in the rest of the economy but also provided a slight increase in total employment, as in Italy, Norway and the United States. However, in these three countries the reason was not a smaller contraction of non-service employment but a stronger expansion of service employment in 1981 compared with the downturn following the first oil shock.

Summary and conclusions

This section has briefly surveyed some of the main changes in the pattern of employment within the service sector between 1960 and 1981. Although the service sector as a whole has grown faster than industry, this conceals divergent movements within the sector. Employment in retail and wholesale trade, and in transport and communications has been declining in relative importance throughout the period in all the countries of western Europe for which the relevant data were available. The share of personal and recreational services in total employment has also fallen in some countries. The main gains have been in the government sector and in financial and business services.

The resilience of employment in the service sector appears to have weakened in the present recession. One important reason for this is the slowing down in the growth of the public sector, especially since 1979, in the face of restrictive fiscal policies and widespread attempts to check the longer-run rate of growth of government expenditure. Other reasons are also suggested by the

changes in the structure of private services. Technical change has probably slowed down the growth of employment in the trade, transport and communications sectors, while the rapid growth of financial and business services has meant an increasing weight in total service employment of activities which are complementary to industrial activity and, therefore, which tend to make the service sector more sensitive to cyclical changes in total output. Another reason may simply be the severity of the present recession. Many services, particularly financial and business, have an "overhead" or fixed-cost character similar to that of head offices, legal, accounting and other departments of industrial firms, and this makes them relatively insensitive to fluctuations in industrial output - at least, to fluctuations within the range experienced up to the early 1970s. In the last three years service occupations in the industrial sector, from typists to managers, have been touched by unemployment as enterprises have adjusted both to the large fall in output and reduced expectations of future growth. It is unlikely that complementary services in the service sector itself would be immune to such influences. However these developments are fairly recent and the analysis provided here must be regarded as tentative. Nevertheless it would appear that the so-called 'post-industrial' society may be rather more sensitive to developments in the industrial sector than was previously thought.

Appendix to 1.6(i) and 1.6(ii)

Statistical sources for labour supply and employment trends and changes in the sectoral distribution of employment

- AUSTRIA. Österreichisches Statistisches Zentralamt, *Statistisches Handbuch*, 1980, 1981, Wien. Österreichischer Arbeiterkammertag, *Wirtschafts und Sozialstatistisches Taschenbuch*, 1980, 1982, Wien. WIFO, Österreichisches Institut für Wirtschaftsforschung, *Data Bank Printout: 30.07.1980*, Wien. WIFO, *Monatsberichte*, 1/67, 2/78, 10/79, 11/79, Wien. Secretariat estimates.
- BELGIUM. Institut National de Statistique, *Statistiques Sociales*, 1978, no.1, 1979, no.4, 1980, no.5, Bruxelles. *Bulletin de la Banque Nationale de la Belgique*, Oct.1982, Bruxelles. Secretariat estimates. OECD, *Labour Force Statistics*, various issues, Paris.
- CANADA. OECD, *Labour Force Statistics*, various issues, Paris. Secretariat estimates.
- DENMARK. OECD, *Labour Force Statistics*, various issues, Paris.
- FINLAND. Ministry of Labour, *Labour Reports*, Nov.1981, Nov.1982, Helsinki. Ministry of Labour, *Labour Force Survey, 1959-1975*, Helsinki.
- FRANCE. OECD, *Labour Force Statistics*, various issues, Paris.
- GERMANY, FED. REP. Statistisches Bundesamt, *Lange Reihen Zur Wirtschaftsentwicklung*, 1980, Wiesbaden. OECD, *Labour Force Statistics*, various issues, Paris. Secretariat estimates.
- IRELAND. OECD, *Labour Force Statistics*, various issues, Paris. EUROSTAT, *Employment and Unemployment, Statistical Bulletin*, 30 July 1982, Luxembourg.
- ITALY. OECD, *Labour Force Statistics*, various issues, Paris. Secretariat estimates.
- NETHERLANDS. OECD, *Labour Force Statistics*, various issues, Paris.
- NORWAY. OECD, *Labour Force Statistics*, various issues, Paris.
- SWEDEN. OECD, *Labour Force Statistics*, various issues, Paris.
- SWITZERLAND. Office fédéral de la statistique, *Statistique de la population active occupée en Suisse*, Bern, 1980. OECD, *Labour Force Statistics*, various issues, Paris.
- UNITED KINGDOM. OECD, *Labour Force Statistics*, various issues, Paris. Secretariat estimates.
- UNITED STATES. OECD, *Labour Force Statistics*, various issues, Paris.

Appendix to 1.6(iii)

Statistical sources on the structure of employment in the service sector

- AUSTRIA. WIFO, Österreichisches Institut für Wirtschaftsforschung, *Data Bank Printout: 30.07.1980*, Wien. Österreichischer Arbeiterkammertag, *Wirtschafts und Sozialstatistisches Taschenbuch*, 1982, Wien.

- BELGIUM.** EUROSTAT, National Accounts, *Detailed Tables by Branches*, various issues, Luxembourg. —, *Statistical Bulletin, Employment and Unemployment*, 30 July 1982, Luxembourg. OECD, *National Accounts Detailed Tables*, 1963-1980, Paris, 1980. INS, *Annuaire Statistique de Poche*, 1981, Bruxelles, 1982. —, *Statistiques Industrielles*, juin-juillet 1982, Bruxelles, 1982.
- DENMARK.** Denmarks statistik, *Statistisk Tiårsoversigt*, 1982, Copenhagen, 1982. OECD, *National Accounts, Detailed Tables*, various issues, Paris.
- FINLAND.** Tilastokeskus, *Tilastollisia tiedonantoja*, No. 66, "Uudistettu kansantalouden tilinpito vuosilta 1960-1978", Helsinki, 1981. —, *Tilastotiedotus, KT* 1982: 7, "Kansantalouden tilinpito, 1975-1981", Helsinki, 1982. —, OECD, *National Accounts, Detailed Tables*, 1963-1980, Paris, 1982.
- FRANCE.** INSEE, *Le Mouvement Économique en France 1949-1979*, *Serie longues macroéconomiques*, Paris, 1981. INSEE, *Collections de l'INSEE*: "Rapport sur les comptes de la Nation de l'année 1981", Paris, 1981.
- GERMANY, FED. REP.** Statistisches Bundesamt, *Volkswirtschaftliche Gesamtrechnungen*, "Ergebnisse der Volkswirtschaftlichen Gesamtrechnungen 1960 bis 1976 nach Wirtschaftsbereichen und Gütergruppen", Wiesbaden, 1979. —, *Op. cit.*, "Konten und Standardtabellen, 1980", Wiesbaden, 1979. —, *Wirtschaft und Statistik*, 8.82, Wiesbaden, 1982.
- IRELAND.** CSO, *Census of Population: 1961, 1966, 1971*, Stationery Office, Dublin. CSO, *Labour Force Survey Results*, various issues, Stationery Office, Dublin.
- ITALY.** ISCO. *Quadri della Contabilità Nazionale Italiana, dati fine al 1981*, Roma 1982. EUROSTAT. *National Accounts, Detailed Tables By Branches*, various issues, Luxembourg.
- NETHERLANDS.** Central Bureau of Statistics, *Nationale Rekeningen* 1981, Amsterdam. —, *Statistisch Bulletin*, various issues, Amsterdam. OECD, *National Accounts, Detailed Tables*, 1970-1978, Paris, 1980.
- NORWAY.** Statistisk Sentralbyrå, *Nasjonalregnskap*, various issues, Oslo. —, *Arbeidsmarkedstatistikk*, various issues, Oslo. —, Statistisk Ukehefte No. 18, 1982.
- SWEDEN.** Sveriges Officiella Statistik, *Statistiska Meddelanden, Series N. 1981: 2.5* "National accounts 1970-1980", Stockholm, 1981. —, "Employment and Compensation of Employees 1963-1980", Stockholm, 1981. OECD, *National Accounts 1963-1980*, Vol. II, Paris 1982.
- SWITZERLAND.** Département fédéral de l'économie publique, *La vie économique*, various issues, Bern.
- UNITED KINGDOM.** CSO, *National Income and Expenditure*, HMSO, London 1982. Department of Employment, *Employment Gazette*, various issues, HMSO, London.
- UNITED STATES.** US Department of Commerce, *The National Income and Product Accounts of the United States, 1929-1976, Statistical Tables* (Supplement to the Survey of Current Business), September 1981, Washington, D.C. —, *Survey of Current Business*, "Revised Estimates of the National Income and Product Accounts", July 1982, Washington, D.C.

CHAPTER TWO

RECENT ECONOMIC DEVELOPMENTS IN SOUTHERN EUROPE

2.0 INTRODUCTION AND SUMMARY

As in previous issues of this *Survey*, economic developments in south European countries are treated apart from those in the more industrialized countries of western Europe. There are a number of reasons for this separate treatment.

First there are obvious and large differences in the general levels of development and of per capita income between the countries of southern Europe and those in the rest of Europe. Although the gap was closing throughout the period from the mid-1950s to the early 1970s, and allowing for the fact that comparisons of GDP at current exchange rates tend to overstate the gap, it nevertheless remains significant. A recent ECE study of real income differences,¹⁵¹ based on physical indicators, puts the 1973 per capita income level of Spain roughly one-third below the (unweighted) average level of a group of more advanced west European countries. For Portugal the gap was about half, with Greece standing somewhere between the Iberian countries. In Yugoslavia per capita income was about 44 per cent of the western average and in Turkey about 22 per cent.

These differences in per capita income levels reflect important differences in relative factor endowments and in economic structure which tend to set them apart in a number of respects from the more industrialized countries.

A major (although declining) structural difference is the much larger share of the agricultural sector both in terms of employment and of output in south European countries. A concomitant feature is the lower, but growing, share of the manufacturing sector "proper", i.e. manufacturing excluding handicrafts. The structure of the service sector is also very different from the more industrialized countries. During the 1960s and early 1970s these basic structural features were important insofar as they provided large gains in income per head to be derived from a redistribution of production and employment from less to more productive sectors, from agriculture towards industry – a source of growth which had been virtually exhausted in western Europe during that period.

Another important family resemblance among these countries is their relative labour abundance and capital scarcity¹⁵² which were among the factors which motivated the strong migratory outflow to the advanced west European countries. The resulting flows of emigrants'

remittances, during the late 1960s and early 1970s, led to a surplus of net factor income for these countries. This, together with growing receipts from tourism, allowed them to keep their current accounts in balance while maintaining large trade deficits.¹⁵³

The structural disequilibria in the trade balance of these countries, combined with a very high import dependence on fuel, made the south European countries particularly vulnerable to the recessions following the two oil price shocks. Thus, while the current account deficit of the advanced western countries in 1978 required only a 5 per cent growth of their combined commodity exports to eliminate it, the south European countries would have needed to nearly double their commodity exports to close a current account deficit which was equivalent to more than 40 per cent of their exports of goods during 1974–1976.

Long and short-term capital borrowing from abroad has increased considerably since 1974 in all these countries and rising interest charges and repayment of principal is adding further strain to their foreign payments situation. The fact that most of their foreign debt is denominated in US dollars, against which their currencies have depreciated sharply during the last five years, implies a rapidly growing and unexpected increase in the financial costs of domestic borrowers.

Other sources of vulnerability which these countries share include the supply rigidity of the agricultural sector (which has had in many cases adverse effects on inflation rates and trade balances), a somewhat archaic and rigid system of taxation (which has made it difficult to finance rapidly growing public expenditure by non-inflationary means), and the still very rapid shift of population towards urban areas which has absorbed a large amount of resources for housing construction and diverted a large proportion of domestic saving away from productive investment.

Of course, the influence of these factors varies among the south European countries and within each country over time. However, it is still true that: "In practically every field of economic policy the south European countries face specific difficulties compounded in many cases by social constraints, and structural rigidities and imbalances have made the problem of adjustment to a new world economic climate particularly painful."¹⁵⁴

Finally, a practical but fundamental reason for treating southern Europe separately from the rest of western Europe is the inadequacy of the flow of statistical information. This tends to be not only less abundant than in the more industrialized western

¹⁵¹ Economic Commission for Europe, 'Comparative GDP levels', *Economic Bulletin for Europe*, Vol. 31, No. 2, New York, 1980.

¹⁵² On differences in relative factor endowments between southern and western Europe see Economic Commission for Europe, "Changing Comparative Advantages in Manufactured Exports from Southern Europe, 1965–1978", *Economic Bulletin for Europe*, Pergamon Press for the United Nations, Vol. 33, No. 4, (December 1981).

¹⁵³ See *Economic Survey of Europe in 1978*, Part I, Chapter 2.

¹⁵⁴ *Economic Survey of Europe in 1980*, p.51.

countries and, in some cases, less reliable, but also, and more fundamentally from the point of view of conjunctural analysis, the time lags in the collection and availability of data are much longer. These deficiencies in the supply of up-to-date and reliable data constitute a significant constraint on macroeconomic policy-making in much of southern Europe. The identification of recent trends is uncertain and frequently relies on qualitative assessments and informed guesses based on sometimes flimsy and indirect indicators.

With the exception of Turkey, where *output growth* has remained relatively satisfactory, 1982 was another difficult year of adjustment for the economies of southern Europe. In Greece the recovery of output was very modest, total output only regaining its 1980 level. In Portugal growth in GDP is estimated to have been one and a half percentage points above the 1981 rate. This slight acceleration originated in a 3 to 4 per cent increase in domestic demand aggregates, while the negative impact of the real foreign balance was reduced to less than half of that in 1981. In Spain the recovery in output was also very modest and in Yugoslavia output virtually stagnated following two years of decelerating growth. In all countries the agricultural sector sustained overall output in 1982, expanding positively and above the average for GDP. Thus, the usual two-year agricultural cycle has played a cyclically dampening role.

1982 was also a bad year for those sectors of demand which are particularly strategic in these countries, namely, fixed productive *investment and exports* of goods and services. Fixed investment declined in Greece, Spain and Yugoslavia and decelerated in Portugal and Turkey. Except for Turkey, export performance was poor in all South European countries. The combined *current account* deficit of these countries declined in current US dollars from \$13.1 billion in 1981 to \$10.5 billion in 1982, but the decline was due mostly to a favourable movement in the terms of trade (falls in oil and commodity prices) and a general de-stocking of oil due to expectations of falling oil prices.¹⁵⁵ Rates of *inflation* declined from the very high rates of 1981 in both Turkey and Yugoslavia but the difference in respect of the average for the more industrialized western countries still remains very large for both countries (about 20 and 25 points respectively). In Greece and Portugal the rate of inflation increased to some 15 points above the west

European average. Finally, inflation remained unchanged in Spain but as the average rate in the advanced countries diminished considerably in 1982, there was a substantial divergence between the two rates.

At the onset of 1983 economic prospects in these countries are far from bright. This is reflected in the available official estimates of output and domestic demand growth which, except for Turkey, remain very modest. Total domestic demand is expected to decline by 10 per cent in Yugoslavia and by some 2 per cent in Portugal, while in Greece and Spain its growth is expected to remain around 1 per cent. Only in Turkey is there a forecast of a substantial recovery in domestic demand, from 0.9 per cent in 1982 to 4.7 per cent in 1983. Total output is expected to increase more than in 1982 in all countries, except Portugal, where virtual stagnation is expected. However, excluding Turkey, where the growth rate might accelerate to 4.7 per cent, the expected increases remain very moderate at around 2 per cent (Spain and Yugoslavia) or less (Greece). Three countries, Portugal, Turkey and Yugoslavia, aim at a substantial improvement in their foreign balance for goods and services but in two of them, Portugal and Yugoslavia, most of the improvement will be the effect of policies reducing domestic demand. In Spain the expected modest recovery of domestic demand (growth of 0.4 to 0.8 per cent) is expected to coincide with a further improvement in the trade balance on goods and services, while in Greece no significant change in the trade balance is expected. Even if the improvement of the balance of trade in goods and services in Portugal, Spain and Yugoslavia is achieved the unemployment levels might not change in view of the expected low rates of growth of total domestic demand. Together with unemployment, inflation and the current balance still remain important constraints on policy in most of these countries. It seems likely that their combined current account deficit in 1983 will improve further, but the devaluations which are expected to bring this about will inevitably lead to some further rise in prices and make it particularly difficult for several of them to reduce their inflation rates relative to those of the more advanced industrial countries. In these circumstances, 1983 will be another difficult year of adjustment when the stance of economic policy will remain restrictive. In this context longer term policies of structural reform will remain both more difficult and more necessary than ever and their implementation in such an adverse environment is the greatest challenge facing economic policy-makers in these countries.

¹⁵⁵ Developments in trade and payments for southern Europe are dealt with in Chapter Four below.

2.1 SOUTHERN EUROPE (EXCLUDING YUGOSLAVIA)

2.1(i) Output and demand

There are few common features in the evolution of output and demand in the south European countries during 1982. The most common feature on the output side is the sustaining role played by the *agricultural sector* which expanded considerably more than GDP in all countries. Its contribution to the expansion of output was greater in those countries, Turkey, Greece and Portugal, where it still accounts for a sizeable share of GDP, while in Spain it was more limited both on account of the smaller weight of this sector and because its expansion has been more modest than in the other countries.

Industrial output growth, and particularly manufacturing, was unfavourable in 1982, falling in Greece and Spain, and decelerating in Turkey. In Portugal the acceleration seems to be mostly associated with the entry into operation of several sizeable public investment projects. Together with agriculture, and for similar reasons, output of public utilities was rather more favourable in 1982 as the drought, which had affected production of hydro-power in 1981, gave way to a more normal pattern of rainfall.

Except in Spain, where it was the main source of total output growth, the *service sector* seems to have lost its dynamism in other south European countries, where it decelerated not growing more than GDP.

The evolution of the main sectors of demand presents fewer similarities than the changes in output except for a deceleration (Turkey and Spain) or decline (Greece) in the exports of goods and services (Greece) and the often undesired expansion of *public consumption* which contin-

ued to be one of the most expansive sectors of final demand in most south European countries, the exception being Turkey.

Private consumption maintained virtually the same rate of expansion as in the previous year in Turkey (3 per cent); it decelerated in Portugal by 1 percentage point to 2.5 per cent and recovered slightly to a modest 1 per cent in Greece and to 0.6 per cent in Spain. *Fixed capital formation* declined for the third consecutive year in Greece and also decreased in Spain; it decelerated in both Portugal and Turkey. *Imports of goods and services* decreased in real terms in Spain and Turkey, reflecting in both cases the low rate of expansion of total domestic demand. In Portugal import growth maintained the pace of 1981 (6 per cent) while in Greece imports grew slightly after a two-year period of decline.

After declining by 0.2 per cent in 1981, GDP in Greece probably increased by perhaps 0.5 to 1 per cent in 1982. Data on output by broad sectors remain scanty and mostly refer to the first half of the year when industrial activity seemed to be still running above that for the same period of 1981. The level of industrial activity, however, seems to have taken a turn for the worse in May 1982; thus, for the year as a whole industrial output may have remained at the same level or perhaps marginally below that for 1981. Following the usual two-year cycle, agricultural output recovered in 1982 but (except for a good olive crop) the upturn seems to have been modest and, in any case, much less sharp than that in 1978 and 1980 (when in both years the increase exceeded 10 per cent). After two years of rapid decline construction output probably continued to fall but probably at a much lower rate than in 1981 (when it fell by 10 per cent).

TABLE 2.1.1

Annual changes in output in selected south European countries
(Annual percentage changes, at constant prices)

	1970-1973	1974-1979	1980	1981	1982	1970-1973	1974-1979	1980	1981	1982
<i>Greece</i>						<i>Spain</i>				
Gross domestic product at factor cost	8.4	3.7	1.8	-0.2	0.7	6.8	2.7	1.5	-0.2	1.1
of which:										
Agriculture	4.5	1.0	11.2	-2.5	+	3.4	1.6	8.9	-11.0	1.3
Industry	13.1	4.7	0.7	-1.1	-	9.9	2.6	0.4	0.0	-0.3
Construction	7.3	0.5	-13.0	-10.5	-	4.1	-2.3	-2.0	-2.0	1.0
Services	8.0	4.8	2.2	2.2	+	6.0	3.8	1.2	1.3	1.8
<i>Portugal</i>						<i>Turkey</i>				
Gross domestic product at factor cost	9.2	2.9	5.5	1.7	3.3	6.3 ^a	5.6 ^a	-1.0	4.2	3.8
of which:										
Agriculture	1.7	-1.0	3.0	-6.0	6.0	1.4	5.5	1.7	0.3	4.7
Industry	10.5	3.0	5.3	1.0	3.8	8.1	5.3	-5.9	7.1	3.3
Construction	10.5	0.8	9.0	4.0	2.0	4.6	6.1	0.8	0.4	0.4
Services	10.5	4.5	6.0	4.0	2.5	8.8	5.8	-0.2	4.8	3.7

Sources: OECD, *National Accounts*, Paris; and

Greece - Bank of Greece, *Monthly Statistical Bulletin*. For 1982 the signs represent Secretariat judgements of the probably direction of change. (For details see text.)

Portugal - Banco de Portugal, *Relatório do conselho de administração*, annual issue. For 1980 to 1982 Central Planning Department.

Spain - Instituto nacional de estadística, *Contabilidad nacional de España base 1970*, annual issues. For 1982, *El País*, 22 February 1983.

Turkey - T.C. Maliye Bakanlığı, *Aylık Ekonomik Göstergeler* (Ministry of Finance, Monthly Economic Indicators), Devlet Planlama Teşkilatı, 1983 Yılı Programı, (Resmi Gazete, 29 December 1982).

^a At producer values, excluding import taxes and imputed bank service charges.

TABLE 2.1.2

Annual changes in demand in selected south European countries
(Annual percentage changes and percentage share in gross domestic product)

	1970- 1973	1974- 1979	1980	1981	1982	1970- 1973	1974- 1979	1980	1981	1982
	Greece					Spain				
Annual percentage changes (at constant prices)										
GDP at market prices	7.8	3.8	1.6	-0.7	0.5	6.3	2.5	1.5	0.3	1.1
Domestic demand										
(GDP + Imports - Exports)	8.2	3.0	-1.0	0.2	0.7	6.3	1.9	1.7	-1.5	0.6
Private consumption	7.1	4.1	0.5	0.5	1.0	6.5	2.5	0.9	-0.9	0.6
Public consumption	5.8	7.5	-0.8	6.5	3.5	5.5	5.5	4.4	2.0	3.5
Fixed capital formation	8.9	0.5	-8.7	-10.1	-5.0	7.6	-1.0	0.3	1.0	-0.9
Exports of goods and services	17.6	7.8	6.6	2.0	-1.5	14.3	9.0	1.6	7.8	2.4
Imports of goods and services	15.4	3.1	-6.6	-1.0	1.0	12.0	3.8	2.7	-3.8	-0.3
Percentage share in GDP/MP										
Changes in stocks										
(at constant prices)	4.0	4.4	4.0	3.0	0.5	1.4	1.5	1.6	0.2	0.3
Exports less imports										
at current prices	-8.9	-9.2	-6.8	-8.0	..	-4.6	-5.4	-5.3	-5.2	..
at constant prices	-8.7	-6.4	-3.1	-4.0	..	-5.0	-4.6	-2.7	-0.8	..
	Portugal					Turkey				
Annual percentage changes (at constant prices)										
GDP at market prices	8.7	2.8	5.5	1.7	3.3	6.2	5.4	-0.7	4.4	4.4 ^a
Domestic demand										
(GDP + Imports - Exports)	9.5	2.2	6.2	4.0	4.3	6.6	5.1	0.4	2.0	0.9
Private consumption	7.9	2.5	5.0	3.5	2.5	5.8	4.1	-0.5	2.9	3.1
Public consumption	7.5	9.0	5.2	6.2	3.5	6.4	8.4	9.2	14.7	2.7
Fixed capital formation	11.1	-0.5	9.0	4.6	2.6	8.6	4.9	-9.2	3.9	3.0
Exports of goods and services	7.7	2.8	7.3	-2.0	3.5	15.5	1.6	5.1	+	+
Imports of goods and services	10.1	0.2	11.1	5.5	6.0	17.6	-1.7	22.5	+	-
Percentage share in GDP/MP										
Change in stocks										
(at constant prices)	4.8	1.7	2.8	2.9	1.2	0.9	2.6	4.6	2.0 ^b	-
Exports less imports										
at current prices	-6.6	-13.1	-15.1	-19.4	..	-3.2	-6.4	-7.8	..	..
at constant prices	-7.4	-9.7	-5.9	-10.5	..	-2.5	-3.4	-2.4	..	..

Sources: OECD, *National Accounts*, Paris, and OECD, *Economic Outlook*, December 1982.

Greece - Bank of Greece, *Monthly Statistical Bulletin*.

Portugal - Banco de Portugal, *Relatório do conselho de administração*, annual issues, and Central Planning Department estimates for 1982.

Spain - *Contabilidad nacional de España base 1970*, annual issues. Banco de España, *Boletín Económico* and *El País*, 22 February 1983.

Turkey - T.C. Maliye Bakanligi, *Yillik Ekonomik Rapor 1982* and *Aylık Ekonomik Göstergeler*; OECD, *Economic Surveys, Turkey*, April 1982. Signs represent Secretariat judgement of the direction of change.

^a Gross national product.

^b Share in gross national product.

Cement sales increased during the first half of the year but trade data show that the increase was mostly for export to the Middle East; moreover, the number of building permits, after rising in the first five months of the year, started to fall below the 1981 level in June and July. Apart from the government services, other service sectors remained sluggish in 1982, particularly international transport and tourism (the number of tourists arriving in the first nine months of the year was no higher than in the same period of 1981). Thus, the service sector as a whole might have increased roughly in line with the growth of GDP.

GDP increased in *Portugal* by about 3 per cent. As in most south European countries agricultural output, which had declined by 6 per cent in 1981, increased by about 6 per cent last year (mostly as a result of better cereals, wine and olive harvests). The energy sector which, like agriculture, had been badly affected by drought in 1980 and 1981, also recovered in 1982. Output from these two sectors increased far more than the average while construction and services rose considerably less. For the year as a whole manufacturing output increased more than in 1981 (3.3 per cent compared with 2.0 per cent) but most of the increase

seems to have taken place during the first half of the year (following a modest recovery after the third quarter of 1981) and originated in the capital and intermediate goods sectors (basic metals and chemicals); in branches more closely linked to consumer demand and exports output decelerated. Capacity utilization levels in manufacturing have remained virtually unchanged and the stock of orders in manufacturing decreased during the first half of the year due to a downward trend in foreign orders which emerged in the second quarter of 1979. Output growth in the construction sector decelerated to a modest 2 per cent,¹⁵⁶ probably due to the credit restrictions, and services also slowed down to 2.5 per cent following a poor year for tourism and a deceleration in the growth of public utilities.

In *Spain* preliminary official estimates of the main national accounts' aggregates by the INE (National Institute of Statistics) were published in February. Agricultural output increased by 1.3 per cent but this is

¹⁵⁶ The weighted production indices for structural steel and cement suggest that, as for manufacturing, the deceleration was more marked in the second half of 1982.

not particularly satisfactory considering that output declined in 1981 by 11 per cent. Industrial output declined slightly. The stock of orders had improved rapidly (although remaining at levels considered below normal) between the second quarters of 1981 and 1982, but later fell very rapidly until October, when a mild recovery took place. The level of stocks followed an opposite movement except that they continued to decline until the end of the second quarter of 1982, after which they increased considerably. The index of industrial production in the first seven months of 1982 was about 1.5 per cent below the level in the corresponding period of 1981 and the fall probably continued during the second half of the year,¹⁵⁷ mostly due to a precipitous decline in the production of investment goods, for which foreign orders had declined sharply. The only indicator which runs somewhat contrary to the others is electric energy production which increased during the period January–November by 1.7 per cent. Consumer goods branches seem to have been rather resilient, particularly during the second half of the year, as money wages increased following the application of the price safeguard clause of the ANE (National Employment Agreement). Cement sales and other indicators confirm that after a five-year period of contraction some recovery has taken place in construction activity (of 1 per cent). Thus, the most significant contribution to the modest output growth of 1982 in Spain derives from the service sectors which have expanded their output by 1.8 per cent, stimulated by a good season for tourism¹⁵⁸ and increased output of public services.

After declining slightly in 1980, GDP (at factor cost) increased in *Turkey* at about 4 per cent in both 1981 and 1982, which is fairly close to the planned target of 4.3 per cent. However, the output pattern of growth changed substantially as the agricultural sector which had remained stagnant in 1981 expanded rapidly in 1982 (by 4.7 per cent) while the rate of expansion in both the industrial and service sectors slowed down particularly in the former. Manufacturing proper expanded by 5 per cent (compared with 8 per cent in 1981) and mining output contracted severely. Construction activity remained sluggish for the second year in succession.

The only service sector increasing faster in 1982 than in 1981 was the government and the only output sector growing faster than in 1981 was public utilities. The deceleration of output is mostly due to domestic demand and particularly to a rapidly diminishing rate of stock accumulation. Export growth also slowed down from the record levels of 1981 but it remained very high (growth of one third in volume).

Considering the four major south European countries, very few common features emerge in the development of demand in 1982.

The countries with the greatest similarity of changes in 1982 are Greece and Spain, where there was a slight expansion of domestic demand in 1982 (0.7 per cent in Greece and 0.6 per cent in Spain). Public consumption in both countries was the most expansive segment of consumption expenditure in 1982 but total consumption expanded more in Greece (1.5 per cent) than in Spain (1.0 per cent). Fixed capital formation continued to fall sharply in Greece for the third successive year but the decline was about half the rate for 1981. In Spain fixed investment fell by 0.9 per cent after a very minor recovery in 1980–1981. The investment cycle in the two countries, however, has been very different in recent

years. In Greece investment fell precipitously in 1974–1975 and recovered in 1975–1979 to reach almost the same level in 1979 as in 1973; the cycle mostly reflected fluctuations in residential investment. In Spain the fall was less abrupt but more steady (both in productive, as well as residential investment), lasting throughout the period 1975–1979 and in 1979 its level was still 12 per cent below the peak of 1974, while in Greece in 1979 it was only 1.7 per cent below the 1973 peak. The second cyclical contraction in investment, however, was much more pronounced in Greece (lasting through 1980–1982) while during these years fixed capital formation in Spain expanded slightly. In 1982 the level of fixed capital formation in Spain was 9 per cent below that for 1974 and that for Greece was some 23 per cent below the 1973 peak. As a result the investment ratio (at current prices) in Spain fell from over 24 per cent of GDP in 1974 to less than 20 per cent in 1982, and in Greece it fell from nearly 28 per cent in 1973 to about 19 per cent in 1982.

The main contrast between the 1982 demand patterns in Greece and Spain lies in the evolution of exports of goods and services which continued to expand in Spain (by 2.4 per cent in 1982 compared to nearly 8 per cent in 1981), while in Greece the deceleration of 1981 is estimated to have been followed by a minor decline in 1982.¹⁵⁹ The different evolution of the export sector implies that while in Spain there was a net transfer of resources to abroad equivalent to about 0.5 per cent of GDP, in Greece the growth in total domestic demand was achieved mainly by increasing use of resources from abroad (of about 0.5 per cent of GDP according to OECD estimates). If, however, exports developed more favourably than estimated, the result might be a slight upward adjustment of the present estimate of GDP growth.

In *Portugal* total domestic demand continued to expand in 1982 rather rapidly (by 4.3 per cent). Final demand increased considerably more slowly than total demand, due to stock accumulation of finished goods. The growth in private consumption has slowed down throughout the year, mostly owing to a nearly 3 per cent fall in real wages, a squeeze of credit available for the purchases of consumption goods and a decline in emigrants' remittances. Public consumption also decelerated, although by less than set in the policy targets. The 3.5 per cent real increase in public expenditure is due to an expansion in the number of employees in social services. Investment decelerated in 1982, more so in the second half of the year. This is apparently related to a slowdown in construction due to credit restrictions, as investment in equipment seems to have remained buoyant.¹⁶⁰ The negative contribution of the real foreign balance to GDP growth in 1982 was less than half of that in the previous year. In 1981 exports fell 2 per cent and imports rose almost 6 per cent; in 1982, exports of goods and services rose by 3.5 per cent (a 7.5 per cent growth in commodity exports being partly offset by a fall in exports of services) and imports increased more than domestic demand.

¹⁵⁷ The last seasonally corrected index (August) shows a fall of 3.3 per cent on the previous year.

¹⁵⁸ The inflow of tourists increased during the first three quarters of the year by 5 per cent. Part of this increase seems to have been due to the world football championship.

¹⁵⁹ The most recent available data (for January–September) for trade on a payments basis show an increase in the dollar value of imports of about 31 per cent (48 per cent in drachmas) and of about 14 per cent for exports (29 per cent in drachmas) which throw some doubt on the OECD estimate of a decline of 1.5 per cent, particularly (as in the case of Spain) anticipation of a devaluation gave rise to leads in import payments and lags in export receipts. This may have produced an under-estimate of export receipts and an over-estimate of imports on a transaction basis and, consequently, the change in the trade balance may have been more favourable.

¹⁶⁰ This is suggested by the indices of industrial production for machinery and by the growth in imports of machinery and transport equipment.

In *Turkey* the increase of GDP of about 9 per cent for the period 1980–1982 coincided with a massive net transfer of resources abroad, the foreign balance in goods and services declining in the same period by about 5 per cent of GDP. A large decline in the rate of stock accumulation in 1981 and 1982 led to a much lower increase of total than of final domestic demand which decelerated to 3 per cent in 1982. All the main components of final domestic demand increased rather evenly in 1982, private fixed investment, the most dynamic, expanding by 4 per cent; but by far the most rapidly expanding sector was exports, which increased in volume terms by over one third.

2.1(ii) Prices, wages and employment

The problems related to *inflation* have remained very acute in the south European countries in 1982. In two countries (Greece and Portugal) inflation has increased to very high rates (23 per cent). In Spain the rate of inflation has remained unchanged (at about 14 per cent) but this nevertheless implies a growing divergence from the rates in the more industrial countries. In Turkey there was a large decline in the inflation rate for the second consecutive year, but the rate of increase still remains some 20 percentage points above the average rate in the more industrialized western countries. (See table 2.1.3.)

Cost-push pressures from *wages* seem to be weakening in general in southern Europe but growing financial costs at enterprise level and rising prices for imported

consumer goods and industrial inputs are in many cases offsetting the favourable effects of a more moderate increase in labour costs per unit of output.

In 1982 *unemployment* continued to be a very serious and worsening problem in the south European countries, all the more so since their lower income levels make it more difficult and burdensome for them to spread the economic and social costs of unemployment over the whole community. Turkey and Spain have the highest unemployment rates in Europe but unemployment levels have also remained high in Portugal and have risen in Greece.

As measured by the GDP deflator, inflation in *Greece* in 1982 was probably some 23 per cent compared with 20 per cent in 1981. The consumer price index has risen a little less than in 1980 and 1981 (24–25 per cent) due to the introduction of selective price controls and the freezing of certain administered prices. Rising food prices and higher import prices because of the depreciation of the drachma are important factors behind this high rate of price increase, but the rising financial costs of enterprises and an expected acceleration of unit labour costs to 28 per cent in 1982 (25 per cent in 1981) are more fundamental sources of cost-push inflation.

Employment in manufacturing (enterprises of 10 workers and more) has remained virtually stagnant. Registered unemployment in Greece covers only a small proportion of total unemployment, which is unofficially estimated at over 8 per cent of the active population in urban areas and 3 per cent in rural areas. *Registered* unemployment in the last three months for which data are available (June–August) rose by 34 per cent and indicates a rapid deterioration in the labour situation.

TABLE 2.1.3
Annual price changes in selected south European countries
(Percentages)

	1970–1973	1974–1979	1980	1981	1982
<i>Greece</i>					
GDP deflator (at market prices)	7.9	15.5	17.9	19.7	23.0*
Wholesale prices: Total	9.1	16.4	28.4	25.9	16.0
Consumer prices: Total	6.5	16.2	24.9	24.5	21.0
Food	8.4	16.7	27.6	30.1	21.1
<i>Portugal</i>					
GDP deflator (at market prices)	6.1	20.1	15.6	17.2	22.1
Wholesale prices: Total	5.6	25.1	6.5	21.5	20.7 ^{4U}
Consumer prices: Total (excluding rent)	8.7	23.7	16.6	20.0	22.4
Food	8.2	27.0	10.4	19.5	24.1
<i>Spain</i>					
GDP deflator (at market prices)	8.8	18.3	13.7	13.4	13.4
Wholesale prices: Total A	6.1	14.6	..	..	..
B	..	14.7 ^a	17.4	15.7	12.2
Consumer prices: Total	8.4	18.4	15.6	14.5	14.4
Food	8.3	17.2	9.1	13.6	15.1
<i>Turkey</i>					
GDP deflator (at market prices)	16.9	33.8	99.8	42.0	27.9
Wholesale prices: Total	15.3	32.7	107.2	36.8	25.8 ^N
Consumer prices: Total	13.5	31.4	116.6	35.9	27.1
Food	13.2	32.3	106.7	40.7	29.0

Sources: For GDP deflator, as for table 2.1.2. For wholesale and consumer prices, *Statistical indicators of short term economic changes in ECE countries*; ILO, *Monthly memorandum on consumer price indices*; OECD Press Release, 9 February 1983; and

Greece – Bank of Greece, *Monthly Statistical Bulletin*;

Portugal – Instituto Nacional de Estatística, *Boletim Mensal de Estatística*; Banco de Portugal, *Boletim Trimestral*;

Spain – Instituto Nacional de Estadística, *Boletín Mensual de Estadística*, Índices de precios industriales, and Índices de precios de consumo; Banco de España, *Boletín Estadístico*;

Turkey – State Institute of Statistics, *Aylık İstatistik Bülteni* and *Aylık Fiyat İndeksleri Bülteni*; State Planning Organization, 1983 *Yılı Programı*.

Note: Spain: A = wholesale price index, discontinued as of July 1980.

B = new index of industrial prices.

^a 1975–1979.

^{4U} January–August.

^N January–November.

In contrast with many other countries, *Portugal's* inflation rate, as measured by the GDP deflator accelerated from about 20 per cent in 1981 to some 22 per cent in 1982. This places Portugal together with Greece among the group of western countries with the highest inflation rates, only Turkey and Iceland having higher rates. After a deceleration between the end of 1979 and the last quarter of 1980, inflation accelerated continuously up to the second quarter of 1982: since then it has tended to decline but largely because of a 45-day price freeze, following the currency devaluation of June. Fluctuations in the consumer price index have been mainly due to the food component.

Between 1979 and 1981 about 40 per cent of the increase in the total demand deflator was due to import prices, about 30 per cent to wage costs, and the remainder to other factor income and indirect taxation. In 1979 about half of the import price effect was due to changes in the exchange rate; in 1980 revaluation was used to counter inflation, but this effect was offset by the rise in oil prices. Last year, despite the fall in international prices in dollar terms, import prices are likely to have contributed positively to domestic inflation, as the effective rate of the escudo depreciated 15 per cent in the first half of the year. Unit labour costs which had increased in 1981 by 20 per cent, i.e. *pari passu* with the general price level, have increased considerably less in 1982 (by 16.5 per cent). Thus, the acceleration of inflation does not appear to be due to higher labour costs. Real wages per head probably fell in 1982 by 2.5 per cent.

Changes in the pace of output growth had little effect on total employment, which increased by 1 per cent in 1981 and 2 per cent in both 1980 and 1979. Estimates for the first half of 1982 indicate a decline of 0.7 per cent in employment in relation to the first half of 1981. This relative rigidity in employment levels in Portugal implies that changes in output growth have mainly reflected productivity. After a 3.5 per cent annual increase in 1979–1980, labour productivity growth fell to less than 1 per cent in 1981 but accelerated to more than 3 per cent in 1982. The rate of unemployment has not changed significantly from its 1977 level, about 8 per cent of the labour force. In the first half of 1982, despite the fall in employment, the unemployment rate fell to some 7 per cent, due to a reduction in the labour force. This decline was partly due to a fall in the number of first-time job-seekers to about 60,000, their share of total unemployment falling from 52 per cent to 46 per cent between the first halves of 1981 and 1982. The overall activity rate fell from 45.6 per cent in 1981 to 44.9 per cent in the first half of 1982.

In *Spain* the inflationary upsurge of 1977–1978 (over 20 per cent) was followed by a period of slowdown in 1979–1980 as a result of restrictive wage and monetary policies. In 1982 inflation as measured by the GDP deflator remained at the same rate as in 1981, namely, 13 per cent. As reflected in the index of consumer prices (which increased at the same rate as in 1981), the influence of rising food prices was particularly strong during the first half of the year and then diminished. In the second half of the year the main cause of the increase in prices was an acceleration in the prices of manufactured consumer goods. Price increases for other industrial goods (intermediate and capital goods) generally decelerated.

Average hourly earnings in the third quarter of 1982 were 14 per cent up on the previous year and the quarter-to-quarter increases in 1982 were all lower than those for 1981, due to the moderating effects of the ANE (National Employment Agreement). Wage rates are expected to increase for the year by little more than 11

per cent and average earnings may increase by less due to shorter working hours.

Employment trends continued to be very unfavourable, total employment decreasing (according to the active population enquiry) by 1.2 per cent between the third quarters of 1981 and 1982. All sectors, except services, have released labour (180,000 jobs being lost in industry alone). Employment in the service sectors increased by 1.9 per cent and the increase seems to have been mainly in the public sector which increased last year by 5.3 per cent in contrast to a loss of 2.2 per cent in the private sector.

Unemployment in the third quarter of 1982 (according to the Active Population Enquiry) stood at 2.13 million, or 16.4 per cent of the active population. Unemployment was 15.5 per cent higher than in 1981 and 39 per cent of the unemployed were searching for their first job. Registered unemployment data (which are not comparable to those of the Active Population Enquiry) show a similar deterioration of the labour situation, registered unemployment increasing very rapidly in November and December to reach 2.15 million (16.5 per cent of the active population).¹⁶¹ As in the more advanced western countries, young women and people looking for a first job were the most unfavoured groups. A recent study of the National Employment Service estimates that the shares of these groups in total unemployment have risen between 1974 and 1982 from 20 to 30 per cent for women, from 14 to 49 per cent for people under 25 years and from 3 per cent to 25 per cent for workers without previous employment. Although 23 per cent of the registered unemployed were not receiving any aid (October 1982 data) unemployment benefits were already absorbing an equivalent of 2.3 per cent of GDP in 1981.

The new government has promised to create 800,000 new jobs during the period 1983–1986 but no improvement in actual employment is expected in 1983. One of the new measures has been to extend the employment subsidies to enterprises already in operation but manpower policies will be changed and employment benefits increased. The rules for short-term labour contracts have been made stricter in the sense that a fixed-term contract cannot be transformed into a new short-term contract: this was done to avoid the creation of a subsidized fringe of rotating employment.¹⁶²

In terms of the GDP deflator inflation in *Turkey* has decelerated rapidly from 42 per cent in 1981 to about 28 per cent in 1982. The annual change in the wholesale price index also fell by about 10 points. The consumer price index exceeded the target rate of 25 per cent as the index for January–November was 27.2 per cent higher than a year earlier. The rise in consumer prices is now expected to be not less than 28 per cent for the year. Nevertheless, this still represents a fall of about 8 points compared with 1981.¹⁶³

There are no internationally comparable figures for registered unemployment in Turkey. However, there are official figures of surplus labour prepared by the State planning organization. According to this source, “unemployment” increased by 336,000 between January and

¹⁶¹ Part of the increase corresponds to discouraged workers who, having had no previous benefits, have re-registered due to the pending extension of unemployment benefits.

¹⁶² Fourteen per cent of new jobs in 1982 were short-term and the number of such contracts doubled in the period 1977–1980. Large enterprises (of over 1,000 workers) can only have 5 per cent of total employment consisting of short-term contracts; small enterprises (less than 50 employees), can have up to 30 per cent.

¹⁶³ The State Institute of Statistics is preparing a new consumer price index which will probably be introduced in 1983. Apart from revised weights, it will include rent and other important consumer items previously excluded; its geographical coverage will include five regions and 14 provinces.

September 1982 to reach 3.3 million, and the "rate of unemployment" increased to 18.2 per cent of the total civilian labour force (including disguised unemployment of 700,000 in agriculture). The sectoral distribution of employment did not change very much apart from a slight decline in agricultural employment and a relatively sharper increase in services. The share of industrial employment remained fairly stable over the 1979–1982 period.

In addition to the rapid growth of the population of working-age (2.8 per cent a year between 1980 and 1985), unemployment has been aggravated further by the drop in the emigration of workers to western Europe and by declining employment in the public sector (particularly in the State economic enterprises). Since 1974 there has been increased emigration of Turkish workers to the Middle East and North Africa. However, these outlets cannot absorb more than a small proportion of the Turkish labour surplus. Given the size of the labour force and its potential growth (over 2.5 million in the period 1980–1985), this problem can only be solved by large increases in capital accumulation and fast output growth.

2.1(iii) Policies and prospects

The stance of *economic policy* during 1982 remained restrictive in all south European countries but the policy mix and the degree of success of the different policies was very uneven.

Monetary policy was tightened in all four countries and it appears from very partial data that in both Greece and Turkey there was also a reduction in the public sector borrowing requirement (PSBR). In Portugal and Spain, however, tighter monetary policy was accompanied by a widening of the PSBR, which at times threatened the attainment of monetary and credit targets.

In Spain, fiscal policy was expected to be mildly expansionary and public investment increased by 14 per cent, although the PSBR increased much more than expected. In both Portugal and Spain the increase in the PSBR has been mostly due in recent years to the expansion of social programmes and the automatic increase in such expenditure due to the deepening recession. It seems likely that the deficit of general government in 1982 in Portugal remained at around 9 per cent of GDP (compared with 10 per cent in 1981) and in Spain at 6 per cent (compared with 3.5 per cent in 1981). The growth of the public deficit had been contained in Portugal during the 1977–1978 stabilization period but rose thereafter, while in Spain the deficit has increased very fast during the last five years.¹⁶⁴

Policies in 1983 are planned to remain restrictive in Greece and Spain, and to become more so in Portugal; they could become less restrictive in Turkey. In this context it should be borne in mind that merely holding public sector borrowing at a constant share of GDP would represent a considerable policy achievement for these countries given the inertial growth of many of their public sector expenditures.

Economic policies in Greece in 1982 were shaped by the need to diminish inflationary pressures and avoid excessive foreign borrowing. The search for a balance between stabilization and expansion was made particularly difficult by the deteriorating world economic climate which hit its foreign exchange earnings. The emphasis in the short term has been on stabilization but strict monetary and fiscal policies were combined with

some redistribution of income in favour of the lower income groups, partly with the aim of reviving consumer demand for non-luxury, domestically produced goods. At the same time, other policies were continued with the aim of increasing efficiency and external competitiveness.

The anti-inflationary stance of fiscal policy¹⁶⁵ was reflected in a target reduction of the public sector borrowing requirement from 19 per cent of GNP in 1981 to 13.3 per cent in 1982. The deflationary effect of this reduction could be somewhat lower than might appear, because part of the expenditure appropriations of 1981 will in fact have been spent in 1982. The 1982 target is expected to be achieved largely by an increase in central government revenue of 58 per cent relative to a rise in expenditure of 35 per cent, which will reduce the nominal deficit of the central government by over 5 per cent. The increase in revenues derives mainly from an increase in corporate taxation and the re-introduction of a property tax, but indirect tax revenue should also increase sharply (54 per cent) and is to be reshaped as a first step towards the introduction of a value added tax. A redistribution of expenditure towards investment is intended and this is reflected in a nominal increase of 35 per cent in budgeted investment.

Compared with fiscal policy the tightening of monetary policy appears less strict: the target for the increase in M3 was 30 per cent, compared with a rise of nearly 36 per cent in 1981 and a nominal increase in GNP of 23.5 per cent. The target for total credit expansion still allowed a large increase (45 per cent) but selectivity in favour of small- and medium-size enterprises and the agricultural and manufacturing sectors (away from trading and "speculative" uses) was reflected in the relative curtailment of commercial bank credits and a greater targeted expansion of specialized credit institutions.¹⁶⁶

The redistributive aspects of economic policy were mostly incorporated in the indexation of wage incomes within a sliding scale which favoured the lower paid. Attempts at longer term structural reform are mostly reflected in the Investment Incentive Law (passed in June) which provides a range of fiscal and credit incentives to new investments, particularly those which favour medium-sized enterprises and the processing of domestically produced inputs.

These policies were expected to lead to a small recovery of GDP, a reduction of inflationary pressures and a fall in public sector borrowing. In the absence of the necessary data, it is difficult to judge the degree to which these policies have been successful. It would seem, however, and for the most part on the basis of statistics for only the first half of 1982, that the overall investment and growth targets have fallen short of expectations and, in spite of price controls, inflation has been more than expected. According to recent reports, there has been a good measure of success in reducing public sector borrowing which is expected (on a cash basis) to have fallen in 1982 to less than 13 per cent of GNP (compared with 19 per cent in 1981). Two important policy decisions were taken in January 1983, namely, the "one step" drachma devaluation¹⁶⁷ of 15.5

¹⁶⁵ In order to limit the central government expenditure, advances from the Central Bank were limited (in May) to 10 per cent of budget expenditure. Moreover, the Treasury bill market has been extended to cover current deficits while previously only the investment budget had been financed in this way.

¹⁶⁶ In May 1982, the government also extended the Central Bank's powers to control credit institutions' negotiations of foreign loans for public enterprises. In future, it will have direct control of interest rates, exchange rate policy and domestic bank credit.

¹⁶⁷ The drachma had already been devalued by 18 per cent in 1982 under a controlled float.

¹⁶⁴ The general government deficit in Spain rose at an annual rate of 84.3 per cent between 1977 and 1982.

per cent and the introduction of across-the-board import restrictions. These two measures in response to the loss of competitiveness of Greek exports, constitute a clear move towards increased protection of domestic production and are consistent with the view expressed some months ago by the Minister of Economics that the "domestic market had to be the mainspring of economic growth". Other recent policy measures continue the stabilization efforts of 1982: these include, notably, a "wage freeze"¹⁶⁸ and the introduction of the 1983 budget which foresees an increase in revenues of 34.3 per cent and in expenditure of 29.5 per cent, with seemingly little or no change in the overall borrowing requirement. These policies are expected to lead to a modest acceleration of GDP growth in 1983 (in spite of a forecast slowdown in the expansion of private and public consumption) and to a drop in the rate of inflation. The success of these policies will depend to a great extent on the evolution of the world economy and on the response of domestic output to the stimulus of devaluation and certain import controls,¹⁶⁹ and of investment to new fiscal and credit incentives.

In the last few years, the stance of economic policy in Portugal has been largely determined by the current account. In 1979, with the easing of the external constraint, an expansionary policy was adopted; but the subsequent widening of the current account deficit, largely under the impact of the second oil price shock and the 1980–1981 drought, forced the authorities to tighten policy from mid-1981. The main policy tools have been the exchange rate and monetary measures: fiscal policy has been less successful and forecasts of the general government borrowing requirements have systematically fallen below the out-turn.

Due to the increasing requirements of the public sector and balance of payments fluctuations, the *monetary measures* tended to limit credit rather than the quantity of money. In 1978 a system of ceilings on bank credit to the private sector (including public enterprises) was introduced. With the policy relaxation in 1979–1980 the ceilings were raised, but since the end of 1981 they have again been lowered; on the other hand, interest rates, which are extensively administered and had remained unchanged since May 1978, were increased three times between July 1981 and March 1983 and become positive in real terms.

The main goal of *fiscal policy* in 1982 was to reduce the general government borrowing requirement from 10.2 per cent of GDP in 1981 to 7.7 per cent. In order to achieve this goal a freeze was imposed on general government employment, civil service salaries were to be increased substantially less than the rate of inflation, price and other subsidies were to be reduced and expenditure on health curbed. However, the target was only partly achieved, with the fiscal deficit as a proportion of GDP being lowered to some 9 per cent.

Apart from monetary and fiscal policies, Portuguese policy makers have frequently resorted to direct *controls of prices and wages*. Price controls have been based on a system of administrative price setting, covering a wide range of goods and services, including energy, public transportation and basic foodstuffs. This system has entailed substantial subsidies from the State to public enterprises and food suppliers. It has, therefore, been

relaxed whenever the government faced budget constraints and needed to restrict expenditure. In addition to price controls, the government has also resorted to wage controls in its attempt to reduce inflation. In particular, since 1979 the government has set a maximum increase that firms can pass on into prices of goods which are subject to control. However, wage norms have often been exceeded, partly because inflation rates have been systematically higher than forecast by the government.

Exchange rate policy has been used extensively in Portugal since the country went into significant deficit in the mid-1970s. A system of "crawling peg" adjustment was introduced in September 1977, with a monthly rate of devaluation first set at 1 per cent and later increased and lowered according to the policy stance. From 1979 to 1981, despite a depreciation against the dollar, the effective exchange rate of the escudo depreciated much less than the rate of inflation. This caused a worsening of the country's competitiveness in export markets, which added to other factors leading to a current account deterioration. The monthly rate of devaluation was increased from 0.5 to 0.75 per cent in December 1981, and to 1 per cent last March; the weight of the dollar in the currency basket was reduced; and there was a 9.4 per cent devaluation in June 1982, and another 2 per cent in March 1983, following the parity changes in the European Monetary System. In the first half of 1982 the effective exchange rate of the escudo fell by 15 per cent. This policy seems already to have had some impact on the external payments situation as the current deficit in the first half of the year amounted to \$2.3 billion, while for 1982 as a whole a deficit of \$3.3 billion has been estimated.

The main guidelines for economic policy in 1983 were presented to Parliament at the end of 1982. The main objectives are the improvement of the current account and a reduction of the real budget deficit. The aim is to reduce the current account deficit by nearly \$1 billion by means of a 7 per cent rise in the volume of exports and a 3 per cent drop in import volume. This export target compares with an expected growth of about 3 per cent in total OECD imports and a 1.5 per cent rise for the EEC, which is actually Portugal's main market.¹⁷⁰ The attainment of this export target, which appears to be rather ambitious, would require a significant increase in the country's market shares and a marked improvement in its relative competitive position.

On the import side, the 3 per cent reduction also appears to be somewhat optimistic: even if GDP stagnates as planned, many of the more dynamic export sectors in Portugal (for example, motor cars) have a high, direct or indirect, import content. In addition, there are structural factors (limited agricultural production, high dependence on oil) entailing a relatively high import elasticity.

Early in 1982 it was expected that the GDP of Spain would grow by 3 per cent and domestic demand by 2 per cent. The inflation rate was expected to fall to 12 per cent. A rather strict monetary policy (M3 expansion was put at 15 per cent) was combined with a clearly expansionist public sector where the borrowing requirement was to reach 3.5 per cent of GDP. Last year's *Survey* underscored the dependence for the achievement of some targets on a more favourable world economic climate and cast doubts on their feasibility. Events have proved unfavourable and demand was weaker than hoped for by policy makers. The greatest deviation from planned policies was the public sector borrowing

¹⁶⁸ The 'freeze' really consists of lengthening the interval between wage adjustments to increase in consumer prices.

¹⁶⁹ The proposed import controls were intended to hold imports of 22 products, which total just under 3 per cent of Greece's trade with its EEC partners, to their levels of 1980. At the beginning of February the European Commission agreed only to controls on 11 products, accounting for less than one per cent of Greece's trade with the Community, with ceilings based on average import levels in 1981–82.

¹⁷⁰ These forecasts are taken from OECD, *Economic Outlook*, December 1982.

requirement which rose to more than 5.5 per cent of GDP. Inflation also accelerated in spite of the moderating effects on wage claims of the national employment agreement (ANE). Much of the underfulfilment of certain targets (particularly the expected increase in fixed investment) might, however, have been influenced by political uncertainties in an election year.

The new Government started its term of office by implementing a set of measures aimed at restoring international confidence in the value of the currency: the peseta was devalued by 8 per cent on 6 December and monetary policy was tightened by an increase of one point in the cash ratio of banks. Prices of fuels were increased to take account of the fall of the peseta vis-à-vis the dollar (it had already depreciated by 20 per cent against the dollar between January and November) and to restore the share of the indirect tax in the final price.

Although the 1983 Budget¹⁷¹ will not be approved until late March or April, the main lines of the economic philosophy of the present government are clear from ministerial statements. Economic policies will remain very strict throughout the year, adopting what has been called the "narrow path between stabilization and expansion" with a clear short-term emphasis on stability (the number one policy target being to fight inflation). The intention of these policies is "to put the economy on a sound footing in order to be able to grow faster than other countries when world economic revival takes place".¹⁷² The early December measures were followed by increases in some administered prices of State monopolies (tobacco), public service changes and raising certain taxes. The net effect of higher taxes (affecting mainly the enterprise turnover tax (a sales tax) and taxes on luxury goods) is expected to be a rise in fiscal revenue from 13.4 per cent of GNP in 1982 to 14.5 per cent in 1983. Income tax allowances on household investments in the capital market or housing are to be limited to 30 per cent of gross income. Monetary policy has been defined in terms of a growth of M3 for the year of 13 per cent (plus or minus 2 percentage points).¹⁷³ Thus, in view of the inflation target of 12 per cent, a more stringent monetary policy than in the recent past is to be combined with a stabilization of the public sector borrowing requirement which in 1983 will remain at the same proportion of GDP as in 1982 (6 per cent). Interest rates will be kept above world market rates (which are expected to fall) in order to attract foreign funds. The policy of selling Treasury bills and other short-term State debt (successfully started in 1982) to the non-bank public is to be continued and reinforced. Wage and incomes policies were agreed by the main trade unions and the employers' organization at the end of January 1983. According to these, increases in wage rates under collective agreements will be limited to between 9.5 and 12.5 per cent with a safeguard clause for workers if the index of consumer prices at the end of September 1983 is more than 9 per cent higher than in December 1982.

These measures will be complemented by others in the budget expected in March or April and the publication of a four-year indicative Plan will put the macroeconomic targets for 1983 in a more meaningful middle-term perspective. It is expected that for the period 1984-1986

the growth of GDP should be somewhere between 2.5 and 4 per cent but the initial target of 2.5 per cent growth in 1983 has already been reduced to 2 per cent. The most dynamic element of total demand growth in 1983 is expected to be public consumption which should expand in volume by 4.5 per cent, while private consumption should grow by 0.6 per cent; gross capital formation should continue to decline marginally. Total domestic demand would thus expand by 0.8 per cent (compared with 0.4 per cent in 1982). The 1983 forecasts imply that most of the GDP growth would be due to a significant improvement in the real trade balance. Economic activity is officially expected to pick up only during the second half of 1983, the generalized downward trends prevailing during the second half of 1982 being expected to continue into the first half of 1983.

In Turkey, the stabilization programme introduced in January 1980 introduced a considerable degree of liberalism into the economy. Stringent fiscal and monetary policies were adopted to bring down the soaring inflation rate, by restricting domestic demand, and to reduce the growing external deficit by promoting exports and stimulating remittance income through a series of devaluations and daily parity adjustments. This programme, which was reinforced by additional measures during 1980 and 1981, represents a significant break from previous policies which had tried to maintain high levels of economic activity through public deficit spending and external borrowing. The new policies, which aim at short-run stabilization and medium term structural changes, began to show their effect in 1981 when inflation, industrial production, exports, the current account and other major macroeconomic indicators began to improve, some by even more than planned. During 1982 these improvements continued but at a slower pace, mainly because of increasing production costs due to the high cost of credit and higher non-oil import prices. After 1980 interest rates were liberalized, and increasing real interest rates led quickly to a large increase in deposits. Industrialists, for the first time faced high costs on their borrowing. In 1982 lending rates were double the inflation rate and production was affected negatively. Industrialists complained at the sharp increase in financial costs, which together with the increase in the domestic prices of imported inputs strengthened the cost-push element of inflation. This pressure is expected to be maintained in 1983.

Monetary policy remained tight in 1982 but monetary targets were exceeded in the second half of the year due to the rescue operations in favour of banks which had been hit by the collapse of the major brokerage companies during the first half of the year; M2 increased by 27 per cent between the end of 1981 and the third quarter of 1982, which represents a considerable slowdown compared with the increase over the corresponding period of the previous year (43 per cent). The increase in time deposits slowed down remarkably, due perhaps to the influence of the bank crisis, and the growth of total credits slowed down from 35 to a rate of 11 per cent (over the same periods as above).

The macroeconomic targets of the 1983 Programme assume that the main economic policies will remain unchanged. It is expected that the rate of growth of GDP will be 4.7 per cent and that inflation will be brought down to 20 per cent. The current deficit is expected to decline further to \$480 million largely as a result of a 13 per cent rise in exports of goods and services and a 7 per cent rise in imports. It is expected that there will be a recovery of industrial production, but some deceleration in the growth of agricultural output.

Consumption (especially in the public sector) and gross fixed capital formation are expected to grow faster,

¹⁷¹ There will be two budgets this year; the first is a purely formal one aimed at consolidating a number of public sector transactions which hitherto have been excluded from the main Budget - this will probably be presented in February; the second is the substantive budget and should appear in late March or April.

¹⁷² Statements of the Minister of Economics, mainly of 5 and 31 December 1982 and 28 January 1983, in *El Pais*.

¹⁷³ It has been officially stated that in future rather than M3 the growth of the financial assets of the private sector should be the target of monetary policy. These assets grew by nearly 19 per cent in 1982 compared with 16 per cent for M3.

resulting in a significant (4.4 per cent versus 3.1 per cent in 1982) increase in final domestic demand. Private fixed investment is expected to increase by 6.5 per cent, 2.5 points more than in 1982.

Obviously, this is a rather ambitious economic plan compared with the 1982 performance. First of all, the achievement of 4.8 per cent GNP growth relies heavily on the growth of industrial output, which recently has been rather sluggish due to high production and financial costs (the cost of loans is not expected to fall following agreements between the Central and other banks). Even if the target for exports is attained domestic demand will still have to be the main support of this growth target. Domestic demand might thus have to be stimulated but this could jeopardise the effort to reduce inflation to 20 per cent. In response to complaints from industrialists and business circles the present government adopted a number of measures at the end of the year for implementation during 1983.¹⁷⁴ Some of these suggest a departure from the philosophy of relying on market forces which was the basis of the 1980 stabilization

¹⁷⁴ In 1983 State Economic Enterprises will not always resort to price increases to cover their costs. This will be the case especially for enterprises providing basic inputs for industry. To this end, limited subsidies will be given to them and moves will be made to lower the prices of imported inputs. Import deposits may be lowered to 10 per cent for all imports (at present it is 10 per cent for liberalized goods List I, and 20 per cent for those of List II). Tariffs on raw materials and intermediate goods may also be revised to reduce the cost of industrial goods and expenditure taxes (excise duties) may be reduced by up to 80 per cent.

– The Central Bank, in consultation with the nine biggest commercial banks, lowered interest rates effective 1 January 1983. Net interest rates on one-year time deposits were lowered to 36 per cent (from 41 per cent), but rates on sight deposits were increased from 5 to 16 per cent.

– Exports will be promoted in 1983, not only through tax rebates as in the past, but also through exemption from the turnover tax.

– Net foreign exchange earnings will be the accounting basis for calculating tax rebates on exports.

– The new tax revenue bill introduces a “standard of living” principle for the income tax which should lead to a large increase in tax revenue. The bill contemplates the possibility of abolishing the 25 per cent tax on interest payments.

programme. Export promotion measures are given particular emphasis and import liberalization is made more selective.

Expenditure under the consolidated budget¹⁷⁵ is planned to reach 23 per cent of GNP, of which 46 per cent is for current expenditure, 21 per cent for investment and the remainder for transfer payments. Some 82 per cent of expenditure is expected to be financed by tax revenues. Domestic borrowing requirement will be limited to 1.3 per cent of GNP. Public investment priorities are in energy (35 per cent of the total), transport (16 per cent), manufacturing (31 per cent), and agriculture (mainly infrastructure).

One source of uncertainty concerning the targets for 1983 is the evolution of the external sector. Current borrowing from abroad which decreased from 4.8 per cent of GNP in 1981 to 1.3 per cent in 1982, is expected to dwindle to 0.7 per cent in 1983, mainly as the result of a large increase in commodity exports. It is true that Turkish exports have shown exceptional dynamism in recent years, particularly in the markets of the Middle East and North Africa, but some if not all of the recent upsurge in foreign demand for Turkish exports has been due a number of factors (wars, rising oil revenues) whose influence now seems to be weakening. At the same time it is by no means clear that these latter influences will be superseded in the near future by increasing import demand in the more advanced industrial countries. However, the external sector in 1983 should not be a constraint on growth even if the ambitious export targets of the plan are not entirely fulfilled. The recent funding of an important part of the short-term foreign debt (about 300 million dollars of suppliers' credits) gives the country more leeway in finding new sources of foreign finance, perhaps on easier terms than in the recent past (if the recent fall in interest rates continues).

¹⁷⁵ Budget of the central government (general budget) and related activities, such as universities, waterworks, etc.

2.2 YUGOSLAVIA

2.2(i) General trends

The growth of output in Yugoslavia has decelerated continuously since 1980: GNP growth, which amounted to 7 per cent between 1977 and 1979, declined to 2.3 per cent in 1980, to 1.5 per cent in 1981, and to virtual stagnation in 1982 (table 2.2.1).¹⁷⁶ However, 1982 may represent the end of the current decline, as some recovery in the growth rate is now expected – to 1 per cent in 1983 and to above 3 per cent in 1984 and 1985.

The deepest decline in output was in the construction sector, where an annual growth rate of some 10 per cent in 1977–1979 was followed by stagnation in 1980 and by absolute falls in the volume of output of 4.2 and 6.0 per cent respectively in 1981 and 1982. A further decline is expected in 1983. In industry a rate of output growth of 8–9 per cent in the 1977–1979 period was halved in 1980 and 1981 and there was virtual stagnation in 1982. A recovery in the growth of industrial output to more than 2 per cent is expected for 1983 and to more than 4 per cent in 1984 and 1985. Annual fluctuations in agricultural output have been due more to variations in the weather and in the agricultural terms of trade than to changes in the growth of demand. The record growth of agricultural output in 1982, an increase of nearly 7 per cent, was almost the only factor that maintained the over-all level of output at its 1981 level. A further increase of 2.5 per cent is projected for 1983.

Following these trends in output, the growth of employment outside agriculture also decelerated gradually, from 4.2 per cent in the 1977–1979 period to 2.4 per cent in 1982 (table 2.2.2). The private sector, which has been expanding fast in services, was most active in recruiting new labour. The pressure in the labour market was also eased by the widespread policy of enterprises retaining labour in the face of falls in demand,¹⁷⁷ which has a temporary but adverse effect on labour productivity.¹⁷⁸

¹⁷⁶ The data in this section, unless otherwise stated, are based on the Federal Statistical Office of Yugoslavia, *Saopštenje* (Communiqué), Vol. XXVI, No. 400, 28 December 1982; National Bank of Yugoslavia, *Godišnji izveštaj* (Annual Report) and *Bilten* (monthly Bulletin); Federal Statistical Office, *Statistički godišnjak Jugoslavije* (Statistical Yearbook) and *Indeks*, (monthly review of economic statistics); documents published in *Službeni list Jugoslavije* (Yugoslav Official Register), Vol. XXXVIII, No. 77, 31 December 1982; and, in some cases, on direct communication between the institutions mentioned and the ECE secretariat.

¹⁷⁷ Both national and international analyses of the Yugoslav economy have found that such behaviour is inherent in the self-management market system. In a World Bank report it was stated: "The combination of the provision that all workers share in the residual income earned and the exclusion of dismissal in cases other than gross misconduct leads to a peculiar pattern of adjusting to business fluctuations: enterprises do not adjust by changing the number of workers receiving a definite wage; they change the level of income of the unchanged work force." M. Schrenk, C. Ardan and N.A. El Tatawy, *Yugoslavia – Self-Management Socialism and the Challenges of Development*, Baltimore and London, the Johns Hopkins University Press, 1979, pp.55–56. A more detailed analysis of wage fund formation and distribution is given in N. Pašić, S. Grozdanić, M. Radević (eds.), *Workers Management in Yugoslavia, Recent Developments and Trends*, International Labour Office, Geneva 1982.

¹⁷⁸ Industry accounted for some 42 per cent of GNP in 1981. Labour productivity growth has decelerated continuously from 5.3 per cent in 1978 to 4.2 per cent in 1979, 1.9 per cent in 1980 and 1.6 per cent in 1981, while in 1982 it fell by 3.4 per cent (*Saopštenje*, pp.6.1). However, it should be noted that the deceleration in labour productivity growth over this period was a dependent rather than determining factor of GNP growth, since factors other than labour – in particular energy and imported intermediate products – directly affected the growth of industrial output and thence, indirectly, labour productivity growth.

The pressure in the labour market nevertheless has increased: the number of job seekers in 1982 reached 861 thousand – 7.6 per cent of the total labour force in the country but 13.6 per cent of total employment outside agriculture. However, the number effectively unemployed is estimated at some 65 per cent of the number registered as unemployed. The increase in employment projected for 1983 – roughly the same as in 1982 – is high by international standards but still below the actual supply of labour in the country.

Inflation continued at a high rate, but it was significantly reduced from 40 per cent in 1981 to 32 per cent in 1982 (table 2.2.3). The major inflationary factors in 1982 were rising wage costs and agricultural prices, the former mostly due to inefficient incomes policies and the latter to deliberate price adjustments aimed at improving the terms of trade of the farm sector. Following a set of measures introduced at the end of 1982, further reductions in the rate of price increase are expected in 1983 (to less than 20 per cent) and in 1984 (to below 15 per cent).

A favourable – and, on longer term criteria, the most important – development in the last few years has been the improvement in the foreign current balance (table 2.2.4). Further improvements in this respect are expected in the next few years. Recent economic trends in the economy have been dominated by the adjustment policies which were introduced precisely to improve the foreign balance, and also by implication, to stabilize the domestic market and to check inflationary pressures.¹⁷⁹ Therefore it will be useful to discuss these policies in somewhat greater detail.

2.2(ii) The process of economic adjustment

(a) General considerations

In 1980 Yugoslavia started a process of economic adjustment which has continued until the present and will continue for a number of years to come. Policies have been assigned two basic goals. First, during the 1980–1982 period, to absorb gradually a high deficit on the current account that had been caused basically by the second oil price shock in 1979, the deterioration in the Yugoslav terms of trade and by an excessive growth of investment between 1976 and 1979.¹⁸⁰ Secondly, from the beginning of 1983, adjustment policies are intended to produce a surplus on the current account which should expand in subsequent years to create a basis for the

¹⁷⁹ To cope with all kinds of external and internal imbalance and to prepare a comprehensive long-term programme of economic stabilization, a special, top ranking Commission for Economic Stabilization was formed. In the spring of 1982, the Commission issued "Polazne osnove dugorocnog programa ekonomske stabilizacije" (Initial Fundamentals of the Long-term Programme of Economic Stabilization), *Borba*, 27 April 1982, followed by several other documents dealing with individual aspects of the country's economic development. In January 1983 it was announced that the Commission would issue very soon condensed findings of these documents in a set of recommendations which should serve as a basis for decision making in the relevant state and other institutions in the country.

¹⁸⁰ Expressed in constant 1972 prices, GNP increased in this period at an average annual growth rate of 6.4 per cent, while the average annual increase in gross investment was 8.7 per cent, *Statistical Yearbook of Yugoslavia*, 1981, pp.84–86.

TABLE 2.2.1

Yugoslavia: Volume growth of demand and output

	1980 billion current dinars	Percentage share	Annual percentage change at constant 1972 prices				
			1978	1979	1980	1981	1982
Final domestic demand	1 499	91.0	8.1	5.8	-1.4	-4.3	-1.6
Private consumption	819	49.7	7.0	5.6	0.7	-1.0	1.2
Collective consumption	143	8.7	6.5	4.5	-1.0	-4.8	-1.0
Gross fixed investment	537	32.6	10.5	6.4	-5.0	-9.8	-6.5
Addition to stocks ^a	149	9.0	-4.6	4.3	1.4	-0.6	0.5
Total domestic demand	1 648	100.0	7.3	5.7	-1.2	-4.1	-1.5
Foreign balance (goods and services)	-95		-0.1	-2.4	5.3	3.7	..
Social product	1 553	100.0	6.9	7.0	2.3	1.5	0.3
Agriculture and forestry	202	13.0	-6.4	5.7	0.0	1.4	6.9
Industry	582	37.5	8.7	7.9	4.2	4.2	-0.3
Construction	165	10.6	13.0	9.6	0.2	-4.2	-6.0
Industrial output per worker			5.3	4.2	1.9	1.6	-3.4

Source: National statistics.

^a Includes residual error.

TABLE 2.2.2

Yugoslavia: Employment

	End-1982 (thousands)	Percentage shares	Annual percentage change				
			1978	1979	1980	1981	1982
Total labour force	11 308	100.0	1.4	1.3	1.3	1.2	1.2
Employment outside agriculture	6 350	56.2	4.6	4.3	3.3	2.9	2.4
Employment in agriculture	3 636	32.2	-2.2	-2.1	-1.3	-1.0	-0.5
Employment abroad	762	6.7	-3.1	-1.3	-2.5	0.0	-1.0
Job seekers	861	7.6	5.0	3.7	3.0	3.0	6.4
Vacancies	71	0.6	14.3	11.1	-2.5	-1.3	-7.8
Effectively unemployed ^a	560	4.9	5.0	3.6	3.0	3.1	6.5

Source: National statistics.

^a Official estimates of the number of persons registered as unemployed who are genuinely seeking work.

TABLE 2.2.3

Yugoslavia: Wages, costs and prices^a

(Annual percentage change)

	1978	1979	1980	1981	1982
Real wages	5.8	0.1	-7.5	-5.0	-2.4
Nominal wages	20.9	20.5	20.5	33.6	28.4
GNP price deflator	14.9	20.7	30.3	40.1	31.6
Wages costs per unit of output	15.7	17.4	21.5	35.6	31.4
Industrial producer prices	8.4	13.2	27.2	44.7	28.6
Agricultural producer prices	11.4	25.6	35.6	52.9	43.8
Export prices	8.7	14.9	19.3	8.5	6.0
Import prices	4.6	19.3	19.6	10.4	1.6
Retail prices	13.4	21.9	30.4	46.0	30.7

Source: National statistics.

^a Wage data refer to the whole economy.

repayment of debt. Due to an adverse combination of internal (a large current deficit and a heavy debt burden) and international circumstances (reduced availability of new borrowing), the adjustment process has been more prolonged and more painful than in the 1973-1975 period. The difficulties of adjustment have been further aggravated by the recession in the industrial market economies, which has affected exports, and by high interest rates which have accentuated the debt burden.

The degree of adjustment to be made may be indicated by the size of the petrol bill, the deficit on the current account and the level of foreign debt. In terms of GDP, the net oil bill jumped from 1.9 per cent in 1978 to 3.9 per cent in 1979. The deficit on the current account rose even more, from 1.9 per cent to 6.8 per cent of GDP. The larger rise in the latter can be attributed to the three factors already mentioned - deteriorating terms of trade, rising interest rates and the deficit financing of invest-

TABLE 2.2.4

Yugoslavia: Balance of payments

	1978	1979	1980	1981	1982
<i>Annual percentage change</i>					
Volume growth					
Exports	-0.8	-0.4	10.7	12.2	-6.7
Imports	-1.0	8.0	-10.1	-5.3	-13.7
Terms of trade	3.9	-3.7	-0.3	-1.7	4.3
<i>Million current US dollars</i>					
Trade balance	-4 630	-7 225	-6 086	-4 323	-2 700
Exports <i>c.i.f.</i>	5 809	6 794	8 978	10 205	9 800
Imports <i>f.o.b.</i>	10 439	14 019	15 064	14 528	12 500
Balance on services and transfers	3 347	3 564	3 795	3 377	2 649
Remittances	1 670	1 710	1 539	1 709	1 300
Tourism	1 002	1 028	1 515	1 588	1 430
Transportation	610	731	832	899	996
Interest	-325	-633	-1 084	-1 621	-1 895
Other	390	728	993	802	818
Balance on current account	-1 283	-3 361	-2 291	-946	-51
Capital account	1 654	2 315	2 119	551	1 049

Source: National statistics and direct communication to the ECE secretariat.

ments. The last factor rose rapidly in response to the need to employ some 400 thousand Yugoslav workers previously employed abroad. Altogether, the total *gross foreign debt* in 1980 amounted to \$19.2 billion: the net foreign debt in convertible currency was some \$16 billion (\$17.6 billion in gross terms) and the debt burden (net repayments of credits plus net interest payments) reached approximately 19 per cent of export proceeds in convertible currency. Foreign currency reserves amounted to \$2.6 billion.

The pace of adjustment managed so far has been very fast. The *current account deficit* was virtually eliminated in 1982, even though the net oil bill stood at 3.7 per cent of the GDP. The bulk of this shift is due to adjustment policies, although there was a slight improvement in the Yugoslav terms of trade in 1982 and some savings were obtained in the consumption of oil. The fall in the deficit led to a deceleration in the growth of the gross foreign debt, which at the end of 1982 amounted to \$20.6 billion, (the total in convertible currency was \$19.2 billion gross and \$17.6 billion net). However, since there was an increase in the proportion of short term debt with relatively higher interest rates, the *debt burden* in 1982 rose to nearly 26 per cent of earnings in convertible currency. At the same time, foreign currency reserves fell in 1982 to \$1.7 billion. The net increase in debt was used to finance part of the interest payments and also imports of capital goods and intermediate products needed to sustain exports.

Of the five basic *methods of adjustment* tried in other industrialized countries in deficit, four have been applied so far in Yugoslavia: increased export market penetration, import substitution, reductions in external financing, and a slowing down in the growth of domestic demand, the latter also implying the stabilization of domestic prices. All these policies fall primarily within the field of cost and demand management. So far the supply side of the adjustment process, i.e. the maintenance of a relatively high rate of growth of output, has received less attention. The growth of industrial output, which is the major supplier of exportable goods and import substitutes, was allowed to decline to the point of virtual stagnation in 1982. However, rapidly expanding output – as the fifth method of adjustment that has been successfully applied in a number of newly industrialized countries which have had to go through a similar

adjustment process – is the only way in which export promotion and import substitutions can be established as a dynamic and a lasting process. During 1980–1982 there was little room for such an approach in Yugoslavia, although it is questionable whether it could have been applied to a greater degree in the previous period of adjustment in the mid-1970s.

The diminishing attention given to the *growth of output* is explained primarily by the need to obtain quick and sizeable economies in the existing level of imports, which in turn affected capacity utilization and the pace of net investment. The pressure to reduce the investment ratio was increased by the fact that there was already spare capacity in the country by 1980, especially in manufacturing industry. It was then argued that for a number of years after 1979 emphasis should be on a fuller utilization of these capacities rather than on the building of new ones, an emphasis which would permit considerable cuts in investment and imports of capital goods. *Investments* had been considered anyway to be too high and largely responsible for the existing demand pressure. Consequently, the investment ratio (calculated on the basis of GNP in constant 1972 prices) was gradually reduced from 34.5 per cent in 1979 to 26.3 per cent in 1982 and the intention is to reduce it still further, to some 21 per cent in 1983. At the same time, a lower rate of industrial growth has also led to savings in imports of intermediate products.

It should be pointed out that a lower rate of growth of output over the medium-term can also provoke supply problems and endanger the adjustment process, especially as far as structural imbalances are concerned. A prolonged decline in investment may also make it more difficult to reduce the level of spare capacity, because of a lack of investment to overcome bottlenecks in the energy and intermediate products sectors, which are by the nature of things capital intensive and slowly maturing. With an inadequate growth of supplies of inputs exports lose their potential to offset the decline in domestic demand and imports are reduced directly rather than through the substitution of domestic production. Both necessarily lead to continuous slowdown, stagnation and even declines in output and to increased shortages in the domestic market which, in turn, further hamper the adjustment process. A development similar to this did in fact occur in 1982.

TABLE 2.2.5

Yugoslavia: Money supply

	Amount end-1980	Billion dinars				
		Changes during period				
		1978	1979	1980	1981	1982 ^a
Money supply (M1)	461.7	64.2	59.8	86.5	122.6	102.3
Bank credits	1 568.4	213.1	258.4	350.7	359.4	285.0
Foreign exchange transactions	-261.9	-19.4	-79.5	-147.6	-113.2	-198.8
Non-monetary deposits ^b . . .	-844.9	-129.5	-120.1	-116.6	-123.6	-16.1

Source: National statistics.

^a January-November 1982.

^b Minus sign indicates a rise in deposits.

The alternative to growth is to go on cutting domestic demand (or supplies to the domestic market which necessarily create shortages) in order to obtain a further improvement in the foreign current account via increased exports and lower imports. This strategy appears to imply the need for priority to be given to imports of energy and other intermediate products, within an already reduced import bill, in order to create room for at least a modest rate of industrial growth. The economic policies envisaged for 1983, in fact, are based partly on such a scenario. However, beyond 1983 rising exports and further import substitution can hardly be expected without a marked recovery of industrial output.

(b) Absorption of the deficit on current account

In this and the following sections policies towards and changes in the current account will be dealt with in somewhat greater detail. The *current account* deficit was slashed from \$3.7 billion in 1979 to about balance in 1982 (in convertible currency from some \$3.5 billion to less than \$0.9 billion). The adjustment was centred on the balance of merchandise trade, where the deficit declined from \$7.2 billion in 1979 to some \$2.7 billion in 1982 (in convertible currency from \$6.5 to \$3.2 billion). The surplus on services and transfers had been increasing in 1980 and 1981 but declined in 1982 (to roughly \$2.6 billion). The latter decline was due to an overvalued dinar, which affected tourism, and also to changes in the foreign currency regime (see below) which – at least temporarily – affected remittances.

The improvement on the *foreign trade account* was due to an expansion in the volume of exports, a decline in the volume of imports and a slight improvement in the terms of trade. The volume of exports expanded by some 11 and 12 per cent in 1980 and 1981 respectively but declined by nearly 7 per cent in 1982. The volume of imports declined by 10 per cent in 1980, 5 per cent in 1981 and by a further 14 per cent in 1982. Changes in exports to and imports from countries with convertible currency were less marked but in the same direction. Equipment and consumers goods dominated the changes in both exports and imports. The terms of trade, which remained unchanged in 1980, deteriorated by 1.7 per cent in 1981 but improved by some 4.3 per cent in 1982.

Policies have centred on changing relative costs and both the level and pattern of domestic demand in order to raise external competitiveness and, hence, the exportable surplus. They are also aimed at price stabilization and a further limitation of domestic absorption.

Following the necessity for changes in relative prices, the domestic currency was first devalued by 20 per cent in June 1980; it then floated between mid- and end-1981

depreciating by 15 per cent against the US dollar. There was a slight recovery in the late summer and early autumn of 1982, but this was followed by a further devaluation of 20 per cent in October 1982. This continuous fall in the exchange rate reflects the failure to stabilize domestic prices. Improved external competitiveness, therefore, had to be sought through other measures. Exports were given various concessions, including easy credit conditions. For certain enterprises increased imports were conditional on a corresponding rise in their exports. Moreover, imports were discouraged by some administrative measures.

Demand policies were formulated so that exports should be encouraged and imports discouraged. The volume of domestic demand was reduced by 1.2 per cent in 1980, 3.7 per cent in 1981 and 1.5 per cent in 1982. Most of this fall in total demand was borne by fixed investment. Public consumption – judged to be rather high up to the end of the 1970s¹⁸¹ – was declining throughout 1980–1982. Private consumption fell only in 1981; in 1980 and 1982 it increased slightly, but real wages declined throughout the period.

Attempts to stabilize domestic prices, as mentioned already, were not very successful, hence the rise in *domestic demand* in nominal terms was high. It first accelerated from 26 per cent in 1979 to 28 per cent in 1980 and then again in 1981 to 35 per cent. However, there was a sharp deceleration in 1982 to 27 per cent. *Money supply* (table 2.2.5) increased less rapidly than nominal incomes and to that extent depressed the nominal rise in demand, but decline in the savings rate, the weakness of incomes policies, uncontrolled credit transactions among enterprises, and the rise in money velocity all acted in the opposite direction. A faster rise in prices than in nominal demand resulted in the above mentioned decline in the volume of total demand. However, the rise in the volume of *private consumption* was the principal cause of the weakening trend in exports in 1982. From this point of view the freezing of the prices of certain consumer goods, introduced in the

¹⁸¹ Defined as the total of all taxes, contributions and other duties, public consumption amounted to 46.4 per cent of GNP used in 1978 and 46.5 per cent in 1979. During 1980 and 1981 its share declined to 44.6 and 43 per cent respectively, but these percentages are still very high for the present over-all level of economic development of the country. (Saopštenje p.6). Public consumption in Yugoslavia includes two categories of spending, namely, *collective* (education, science, culture, health, welfare, physical culture, pension and disability insurance and public utilities), which is financed mainly by personal contributions, through special institutions called self-management interest communities, and *general* (national defence, government administration at all levels, judiciary, etc.) which is financed through budgets and/or taxes, duties, etc. For a more detailed analysis of the subject see "Financing of Collective and General Social Needs" (in English), *Yugoslav Survey*, Vol. XXII, No. 3, August 1981, pp.31–40.

summer of 1982, was hardly a step in the right direction, all the more so since wage costs – due in part to an inefficient wage policy – were allowed to increase unduly.

(c) *The reversal of the deficit into surplus*

In the official view the adjustment process, should continue in 1983 with the achievement of a surplus on the *foreign current account*. A current account surplus of \$1.8 billion (\$1.5 billion in convertible currency) is projected for 1983, the bulk of which is intended to replenish the foreign currency reserves, which were some \$1.7 billion in 1982. If this target is reached, the adjustment problem will be greatly eased: the country would be capable of meeting its foreign interest obligations and foreign currency receipts from the current balance and fresh borrowing would be needed only to help in financing current repayments of principal. The level of foreign debt would remain unchanged in 1983 and the way to its gradual repayment – which is scheduled to begin in 1984 – would be opened.

In support of the balance of payments target, a rise of 9 per cent in the *volume of exports* (20 per cent rise to countries with convertible currency) and a decline of 7 per cent in the volume of imports (13 per cent from convertible currency countries) are planned for 1983. Within the reduced import bill imports of intermediate products will be allowed to increase by 4 per cent in order to sustain the projected growth of industrial output. Thus the *trade deficit* would be reduced substantially, to some \$1.2 billion, and this would be more than offset by a surplus of \$3 billion (\$2.6 billion in 1982) in *services and transfers*. Tourism is expected to increase by 25 to 30 per cent (largely a recovery of the ground lost in 1982), construction activity abroad by 15 per cent and transport services by 10 per cent; emigrants remittances, on the other hand, are expected to decline further.

Policies in support of these objectives will be similar to those in preceding years, but will be pursued more vigorously. They continue to seek changes in relative costs and reductions in domestic demand in order to secure a further decline in the rate of inflation. Moreover, a number of new measures has been introduced to make exports more attractive, to maximize foreign currency receipts from actual exports, tourism and other services, and to raise foreign earnings in general. More vigorous measures will be applied to contain domestic inflation and to preserve the competitive advantage of the devaluation for as long as possible. Yugoslav economic policy is now committed to the maintenance of a realistic *exchange rate*. As already mentioned, the domestic currency was devalued by 20 per cent in October 1982 and its impact on foreign trade is expected in early 1983. This devaluation may be more effective than previous ones, as it is combined with a partial price freeze which was introduced in the summer of 1982 and will be continued in 1983. Nevertheless prices will continue to increase if only to permit the adjustment of domestic to foreign prices.

The adjustment process will henceforth be sustained by *energetic demand policies*. Against expected increases in industrial and agricultural output of 2 and 2.5 per cent respectively, the volume of total domestic demand is planned to fall by 10 per cent, of which investment in fixed assets by 20 per cent, public consumption by 12 per cent and private consumption by 6 to 7 per cent. Real wages should fall by 6 per cent. In nominal terms demand should increase more moderately than in 1982 and, therefore, a smaller price increase is implicit in the fall in real demand. A slow increase in output, together with further import substitution, will further ease the demand for imported intermediate products. *Credit*

policy will be tightened further, and the policy of negative real interest rates – pursued for many years – will be abandoned; credit transactions among enterprises will be checked and new investment in the productive sphere will be authorized only if sufficient self-financing is available. Investment in non-productive sectors (except housing) will be stopped altogether; hire-purchase credits will be cut severely, budget expenditures considerably reduced and wages will be allowed to increase by much less than the rise in enterprise net income and prices. Moreover, in order to restrain demand in product markets, policies will attempt to change the pattern of private expenditures and to raise savings. Economic rents and economic prices for communal services and energy will be introduced gradually, and over the medium-term these will lead to substantial changes in family expenditure. Savings will be stimulated largely by interest rates: these were increased sharply in January 1983 – both for enterprises and individuals – to 23 per cent on time deposits exceeding 2 years and 28 per cent on deposits exceeding 3 years. In the past the highest levels of interest rates were some 14 per cent in 1981 and 20 per cent in 1982. The rate of interest charged on investment loans will increase even more, thus encouraging a more rational allocation of scarce capital resources.¹⁸²

Other policies have been introduced to encourage exports and reduce imports. Exporting enterprises will enjoy privileges in obtaining supplies of foreign currency to finance imports of intermediate products and complementary equipment, but they will be obliged to export more than they import. Exporters will also enjoy tax advantages on their export earnings and will have preferential access to finance for export work in progress and for exports of equipment. Additional discouragement to imports will come from the obligation on enterprises to surrender a considerable portion of their foreign currency earnings. To help debt repayment, the National Bank will also take all the proceeds from foreign exchange offices.

One objective of Yugoslav policies is to increase the surplus from exports of services. One way of doing this is to reduce Yugoslav expenditure on foreign travel.¹⁸³

Another objective is to maximize official holdings of foreign currency actually available in the country. Private trade in foreign currency in the domestic market has diminished these official holdings and has affected monetary policies. To cope with this situation a number of measures were introduced in October 1982, and private trade in foreign currency in the domestic market has been suppressed.¹⁸⁴

¹⁸² An increase of interest rates has been advocated in several OECD economic surveys of Yugoslavia. In the latest one (*Yugoslavia, OECD Economic Surveys 1981–1982*, Paris, 1982, pp.49–50) it is argued that the changes introduced up to mid-1982 were not sufficient: "Interest rates are still substantially below the rate of inflation and further increases are needed if enterprises are to be subject to reasonable economic discipline in making their investment decisions More realistic interest rates would also reduce the attractiveness of capital-labour substitution and thus foster employment growth".

¹⁸³ Since October 1982 Yugoslavs must pay a deposit of 5,000 dinars (some \$80) when going abroad and this sum is raised by 2,000 dinars for each additional voyage abroad in the course of the same year. The deposits bear no interest and are recoverable after one year. Yugoslavs working abroad are not subject to this regulation.

¹⁸⁴ However, Yugoslavs still retain the right to hold their savings in foreign currency, and to deposit them in commercial banks at attractive rates of interest (7.5 per cent for sight deposits, 9 per cent for those exceeding one year, 11 per cent for two years and 12.5 per cent for three years). These deposits may be used for payments within and out of the country, but there is now a temporary limit on the amount of cash that can be drawn against each account (\$250 per month) and the value of goods that can be imported (about \$25). However, there are no restrictions on cheques drawn against these accounts. Apart from certain restrictions on the amount they may import, Yugoslavs living abroad are exempt from these measures.

The general reappraisal of Yugoslav economic policies led to a modification of the *foreign exchange system* at the end of 1982. Until recently this system involved identifying the foreign payments position of the individual republics and provinces of Yugoslavia within the over-all national balance of payments. Given the over-all scarcity of foreign exchange, this encouraged the republics and provinces to link imports to their own export performance, as well as the substitution of foreign for domestic currency within the country and the *de facto* suspension of a unified foreign exchange market. This gave rise to illegal transactions in foreign currency and to considerable misallocation of foreign exchange. To correct this situation temporary measures were introduced in May 1982 and more decisive steps were taken at the end of 1982. The main feature of the new legislation is the suppression of regional payments balances, and this should lead to the elimination of the above-mentioned weaknesses in the foreign currency regime.¹⁸⁵ (The new measures also provide for priority to be given to the repayment of foreign debt, which should enhance financial co-operation with foreign countries.)

In conclusion, it may be asked how realistic are these expectations for 1983. It is clear that the cuts in domestic demand, together with the expected rise in industrial and agricultural output do provide room for the expected increase in exports, a fall in imports and a rise in the current account surplus. Moreover, the expected growth of industrial output can be achieved with the projected increase in supplies of intermediate products, which includes a 4 per cent increase in imports of these products.

However, it is less certain whether the proposed cuts in domestic demand can actually be implemented and whether foreign demand will be strong enough to support the planned rise in exports. Concerning domestic demand, two points should be made. First, considerable care is required on the part of the government if it is to achieve cuts in demand with the support of the population. Secondly, the instruments of demand management need to be improved considerably in order

to translate possibilities into reality. The most uncertain factor is the development of wages, as incomes policies are weak and, so far, the co-operation of all the parties involved has not been ensured.¹⁸⁶

As for exports, several conflicting factors are at work. First, demand in the industrial countries may not recover as expected. This problem is accentuated by the fact that the Yugoslav plan implies a certain gain in shares in western markets, but during the last several years the opposite trend has prevailed. However, given the fact that imports into OECD countries from Yugoslavia are marginal (roughly 0.33 per cent of the total) the reversal of this trend, even in the case of stagnating over-all demand, is not impossible. Secondly, another adverse point is that a considerable proportion of Yugoslav exports is facing rising protectionism in OECD markets – textiles, foodstuffs and metal processing in particular.¹⁸⁷ However, possibilities for the expansion of exports, even for these products, have been improved by the recent agreement between Yugoslavia and the EEC. In fact, a number of the quotas granted to Yugoslavia under this agreement were not filled in 1982 because of the lack of domestic supplies. Thus there does appear to be room for an expansion of exports, but much will depend on the success of national policies.

¹⁸⁶ After a new basic economic law (Associated Labour Act) was passed in 1976, incomes policy in Yugoslavia has been regulated by a large variety of acts (laws, self-management agreements and self-management compacts) and influenced by many economic and political organizations. Final decisions, however, are taken by the self-management organs of the enterprises themselves. On the basis of five years experience it was found that there was not satisfactory co-ordination between the acts regulating incomes policy and the subjects influencing it. Consequently in January 1983 the Federal Parliament strongly supported the trade unions' initiative to prepare a new federal social compact on incomes policy in the country. See *Borba*, 13 January 1983, p.4.

¹⁸⁷ During the 1970s other south European countries were also facing increased competition from the newly industrialized countries (NICs) in the OECD markets. In a recent ECE study it was stated: "During the 1970s, all selected (south European) exporters, except Yugoslavia, increased their shares in total OECD imports of manufactures. However, the share of southern Europe increased less than that of the NICs, especially in the second half of the decade". ("The Relative Performance of South European Exports of Manufactures to OECD Countries in the 1970s: An Analysis of Demand Factors and Competitiveness", *Economic Bulletin for Europe*, Vol. 34, United Nations, Geneva, 1982, p.3.51.) As far as Yugoslavia is concerned, its share of OECD markets was increasing over the first half of the decade but this was more than reversed in the second half, so that in 1980 its share in total OECD imports had fallen to 0.38 per cent as compared with 0.40 per cent in 1970 (*op.cit.*, p.3.10).

¹⁸⁵ Such a change was also suggested by the OECD (*op.cit.*, p.50): "The organization and management of foreign trade and foreign exchange would seem to require modification so as to promote a rapid increase in net exports of goods and services over the medium-term which must remain a principal objective of policy....One further consideration is that while export performance would be improved by a lowering of trade barriers against Yugoslav exports, greater unification of foreign trade and exchange markets is also very important".

CHAPTER THREE

EASTERN EUROPE AND THE SOVIET UNION

3.1 GENERAL DEVELOPMENTS

The year 1982 has specific dual significance in the economic development of eastern Europe and the Soviet Union. As the second year of the 1981–1985 planning period it should be evaluated mainly in relation to the objectives laid down in the countries' five-year plans, and in their annual plans for 1982. However, the fact that most five-year plans for the 1981–1985 period were finally approved either in the middle of 1981 or at the end of that year means that 1982 is only the first year in which the policy guidelines incorporated in these plans could take full effect. At the same time, since one year is too short a period in which to bring about substantial changes in previous trends of development, 1982 should also be viewed in relation to such trends over the last few years. Thus, in addition to the usual analysis of actual performance in relation to annual plan targets, this chapter will also examine medium term development trends since 1976, during which important changes took place in the pace and pattern of advance in eastern Europe and the Soviet Union. It will also examine the dispositions made in the five-year plans for 1981–1985 to eradicate the causes of problems which built up over the previous quinquennium, and to provide room for a return to a more balanced and efficient advance. Following this general approach, this section will analyze, in particular, four main areas: the growth of national output (sub-section (i)), factor inputs and efficiency in their use (sub-section (ii)), foreign economic relations (sub-section (iii)), and the overall allocation of net material product (sub-section (iv)). Finally, in sub-section (v), a condensed review of policy objectives for 1983 in the centrally planned economies of eastern Europe and the Soviet Union is presented.

3.1(i) Growth of national output

Overall economic growth in the seven countries of the region taken together – measured in terms of net material product – recorded an increase of some 1.8 per cent in 1982. Compared with most developed market economies and the bulk of developing countries, this rate of expansion can be considered relatively high – particularly when the unfavourable conditions prevailing in the world economy are taken into account. However, the two other criteria retained above – medium term growth trends and the five-year and annual plan targets – suggest an interpretation of developments in 1982 within a longer term context.

The easing in growth recorded in 1976–1980, analyzed in the *Economic Survey of Europe in 1981*,¹⁸⁸ appears to have continued in 1982. This can be seen from the data

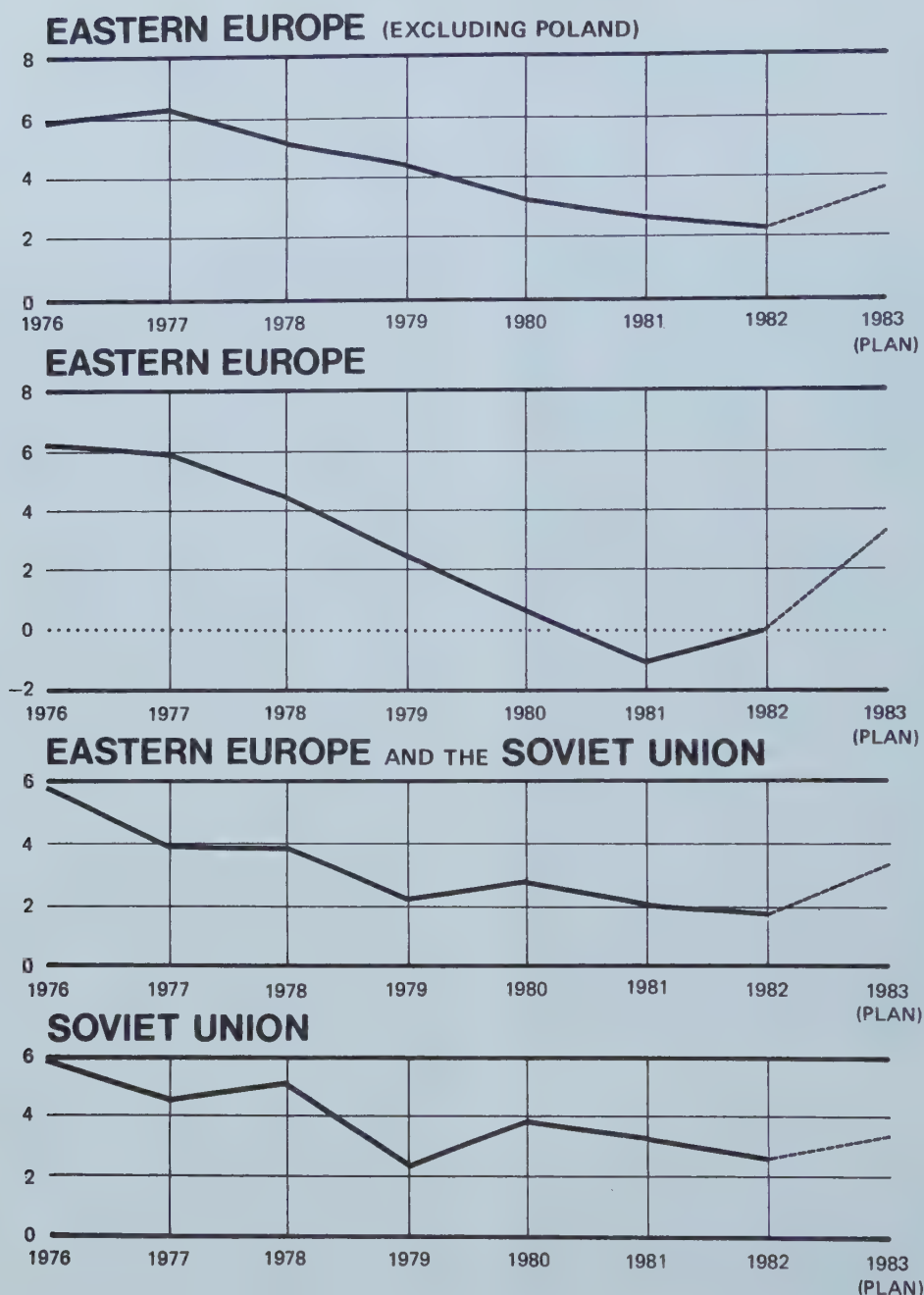
presented in tables 3.1.1 and 3.1.10 and is even more striking as presented in chart 3.1.1. With regard to the growth of net material product (NMP) these data suggest three conclusions. *First*, the decelerating tendency apparent in 1981–1982 is not a new or unprecedented phenomenon but a part of the longer term trend which was expected to continue for some time. In fact, in four out of seven countries of the region (Bulgaria, the German Democratic Republic, Hungary and the Soviet Union), NMP growth targets in the 1982 annual plans were set to a greater or lesser extent at rates below performance in 1981. *Second*, looking back further than the two latest years, it seems that there was a downturn in an already decelerating trend in 1979, when aggregate average annual NMP growth for the region as a whole was more than halved (from 4.9 to 2.3 per cent). A comparison of the aggregate result in chart 3.1.1 with those for eastern Europe (both excluding and including Poland) and the Soviet Union respectively clearly shows that this originated with the Soviet Union. The curves for eastern Europe indicate no similar fluctuation. *Third*, after the marked upward change that took place in 1980, again exclusively due to the Soviet Union where there was a sharp reversion to a higher rate of NMP growth (from 2.3 to 3.9 per cent) – the slowdown in economic growth continued in 1981 and 1982. However, the annual changes in NMP growth rates were substantially smaller than during 1976–1979, especially in 1982. In fact, if the usual relationship between the growth rates of *NMP used* and *NMP produced* had persisted (the latter having been higher than the former in 1976–1980 as shown in sub-section (iv) below), the aggregate growth rate of NMP produced for the region in 1982 could have been about the same as the outcome for 1981.

Another important aspect of developments in the centrally planned economies is the relationship between actual and planned performance. Indeed, comparison between the two in table 3.1.1 suggests two conclusions. *First*, the aggregate growth rate actually attained in the region in 1981 and 1982 (2.0 and 1.8 per cent respectively) lagged behind the corresponding annual average aggregate NMP growth rate envisaged in the 1981–1985 five-year plans (roughly 3.5 per cent). This finding should, however, be judged in the light of the fact that most individual countries' five-year plans (either implicitly or explicitly, as in the case of the Soviet Union), deliberately envisaged slower annual growth rates in the early years of the five-year period than for the period as a whole. In fact, the second conclusion derived from table 3.1.1, is that only some two-thirds of the planned NMP growth rate for 1982 (1.8 per cent as compared with some 2.8 per cent planned for the region as a whole) was attained. This implies that the average NMP growth rate in the last two years of the five-year period would have to be

¹⁸⁸ *Op.cit.*, pp.133–140.

CHART 3.1.1

GROWTH OF NET MATERIAL PRODUCT
(Annual percentage change)



rather high – in fact more than 5 per cent per year – if five-year targets are to be achieved for the region as a whole, even if the 3.3 per cent NMP growth envisaged for 1983 were attained.

In most cases the comments on the main development trends in eastern Europe and the Soviet Union combined are true for both parts of the region (eastern Europe on one hand and the Soviet Union on the other). However, as already indicated above, there are differences between the two. Moreover, the specific circumstances which have affected economic developments in Poland significantly distort average or aggregate indicators for eastern Europe as a whole. Besides the usual references to

eastern Europe and the Soviet Union, therefore, the analysis will on occasion also distinguish between eastern Europe as a whole and eastern Europe excluding Poland.

The deceleration of economic growth which characterised the region was far more pronounced in the case of eastern Europe than in that of the Soviet Union.¹⁸⁹ From an aggregate outcome slightly above 6.2 per cent in 1976,

¹⁸⁹ Linear time trends were fitted to annual data for the years 1976–1982 as follows: eastern Europe, $Y = 2.7 - 1.3x$; the Soviet Union $Y = 3.9 - 0.5x$; eastern Europe and the Soviet Union $Y = 3.6 - 0.9x$, where the Y is the annual growth rate in NMP and x is time (1977 = 1, 1978 = 2, etc.).

the growth rate for eastern Europe progressively declined – by an average of some 1.3 percentage points annually over the next five years. In 1981, there was even an absolute contraction of NMP by 1.1 per cent. Judging by the preliminary figures reported by national statistical offices, however, the slowdown was halted in 1982, as NMP in the region remained at the level of 1981. Moreover, the 3.3 per cent aggregate NMP growth rate for 1983 implied by the individual national plans indicates that the east European countries now count on a recovery and indeed expect significant increases in NMP.

Taking into account the specific situation of Poland, which will be discussed later, some conclusions can be drawn for the other five east European countries (Bulgaria, Czechoslovakia, the German Democratic Republic, Hungary and Romania). Both figures in table 3.1.1 and graphs in chart 3.1.1 suggest several conclusions. First, the deceleration process in the five country sub-aggregate started in 1978, a year later than in the Soviet Union and Poland, and lasted through 1982. The aggregate NMP growth rate recorded for this group in 1982 (2.3 per cent) was only 0.4 percentage points below that recorded in 1981 (2.7 per cent). Thus the slowdown in economic growth was much less than was recorded between 1978 and 1981 (0.8 percentage points annually). In addition, even in 1982 the aggregate growth rate in this indicator was still at a relatively high (though historically low) level. The upward change implied for 1983 by the aggregate NMP growth rate plans of these countries (roughly 3.6 per cent) is less pronounced than for eastern Europe as a whole (including Poland). Again, this reflects the relative weight of Poland, which expects a bigger upswing in NMP in 1983.

Besides the downswing in 1979 already mentioned, the development process in the *Soviet Union* since 1976 has another important feature. The moderation of economic growth – contrary to that in eastern Europe – has not been continuous, though the trend line does show a deceleration. In both 1978 and 1980, NMP growth recorded upward changes, significant in the earlier year and still substantial in the later one. Developments in the Soviet Union in recent years nevertheless had two characteristics similar to those in eastern Europe excluding Poland. First, the slowdown was on average quite small. It was even less marked (some 0.5 per cent annually) than in eastern Europe excluding Poland (0.8 per cent per year). Secondly, it persisted into 1982.

Two more factors should also be taken into account here. Overall economic growth of the country was seriously affected by a quite exceptional succession of downward changes in agricultural growth over a five-year period (1977–1981). This ended in absolute declines in output in three consecutive years (1979–1981). Hence, the initial slowdown in growth and subsequent contraction of agricultural output – which in 1981 fell to the level of 1976 – explains a good deal of the slowdown in overall Soviet economic growth. However, industrial growth also displays a rather persistently downward trend (0.6 percentage points annually) ever since 1978. In fact its growth rate declined from 5.7 per cent in 1978 to an exceptionally low, by historical standards, 2.8 per cent in 1982.

The year 1983 is expected to set the scene for an upward change in NMP growth of the Soviet Union. The annual plan for the year 1983 envisages a 3.3 per cent rate, higher than both the 3.0 per cent rise projected for 1982 and the 2.6 per cent actually achieved. In fact, the downward trend may already have been checked even in 1982: preliminary growth figures are based on the officially reported 2.6 per cent annual change in NMP used. There is still no reliable figure for NMP produced.

In most previous years, the Soviet NMP produced was higher than NMP distributed. Hence, if this relationship also persisted in 1982 – as some other reported figures indicate¹⁹⁰ – the recent slowdown in economic growth in the Soviet Union may already have been arrested or even reversed. If so, the high weighting of the Soviet Union in the regional aggregate NMP growth figure would bring about a similar turnaround for eastern Europe and the Soviet Union taken together.

Economic developments in individual east European countries (tables 3.1.1 and 3.1.10 and chart 3.1.2) show a much more varied picture than eastern Europe (both including and excluding Poland) and the Soviet Union as a whole. The country in which the downward trend of overall growth has been the most pronounced is *Poland*. Its origins go back beyond 1976. In fact, this trend can be considered in part a consequence of the excessively high growth rates which took place in the 1971–1975 period (9.8 per cent annually). Though impressive, growth at such a pace was not sustainable as the bulk of it was financed from huge net borrowing from abroad which led to a progressive increase in the foreign indebtedness of the country. The overall implications of economic growth recorded over 1971–1975, however, were not fully taken into account and the 1976–1980 five-year plan envisaged a rather ambitious continued rise of NMP (7–7.3 per cent annually). No growth rate at that level was recorded in any of the following years. On the contrary, the deceleration process continued to gather pace during the quinquennium.

This led to absolute declines in the NMP level in both 1979 and 1980 of 2.3 and 6.0 per cent respectively. In the whole 1976–1980 period, Poland recorded an average NMP growth rate of 1.2 per cent only, as compared with the 7–7.3 per cent envisaged by the five-year plan. In 1981, Poland recorded a further absolute decline of NMP by as much as 12.1 per cent – unprecedented in peacetime for a country of its size and level of development. Altogether in 1981, NMP produced was roughly one fifth smaller than that in 1978 and indeed was only slightly above its 1974 level. The different social forces engaged in political decision making to shape future developments did not reach the consensus necessary to check a further deterioration. A complete collapse of economic activity ensued. The process of economic reform announced in the country could not even start. In December 1981 the introduction of martial law affected all aspects, including economic, of the country's life. During 1982, initiatives in three main areas were taken: to prevent a further deceleration in economic growth; to handle the increasingly complex foreign debt and debt servicing situation; and to restore normal relations between the main social forces of the country.

Available information suggests that these efforts had some effect. In 1982 net material product fell by 8 per cent, which is a further decline in its already rather low level. But the decline recorded for the previous year (12.1 per cent) was reduced by one third, the first check

¹⁹⁰ After the session of the Council of Ministers of the Soviet Union on 9 February 1983, at which the annual plan for 1983 and the performance of the Soviet economy in 1982 were discussed, it was officially reported that labour productivity in 1982 increased by 2.7 per cent (*Pravda*, 10 February 1983, p.2). At the same time, figures presented in table 3.1.2 show that employment in the material sphere rose by 1.1–1.2 per cent in 1976–1978 and 0.7–0.8 per cent in 1979–1981. Hence, as in an economy of this size no big change in one year can be assumed, employment in the material sphere in the Soviet Union in 1982 probably increased by 0.5–0.6 per cent. If so, the annual growth rate of net material product produced in the country would be 3.2–3.3 per cent, i.e. 0.6–0.7 points above the 2.6 per cent growth of NMP used. However, no official confirmation of this estimate has been received.

TABLE 3.1.1

Changes in growth of the net material product
(Annual percentage change)

	Net material product (billions of national currency units) at current prices	Net material product		Gross output					
		Plan	Actual	Agriculture ^a		Industry		Construction ^b	
				Plan	Actual	Plan	Actual	Plan	Actual
Bulgaria									
1976-1980		7.7	6.1	3.7	2.1	9.2	6.0	..	5.9
1979	17.7	7.0	6.6	7.0	6.0	7.8	5.5	..	2.9
1980	20.5	5.7	5.7	3.7	-4.5	6.3	4.2	..	3.6
1981	22.0	5.1	5.0	4.7	5.9	5.6	4.8	..	5.9
1982	22.9	3.6	4.0	2.2	4.7	4.5	4.6	3.8*	1.5
1983	..	3.8	..	2.7	..	4.8	..	..	..
1981-1985	..	3.7	..	3.4	..	5.1	..	..	..
Czechoslovakia									
1976-1980	..	4.9	3.7	2.7-2.8	1.6	5.7-6.0	4.7	6.2-6.5	3.0
1979	460.7	4.3	3.1	3.8	-3.3	4.5	3.7	5.8	2.5
1980	486.3	3.7	2.9	7.2	4.8	4.0	3.5	3.8	1.9
1981	472.0	2.8	-0.4	2.6	-2.5	2.7	2.1	2.8	-1.4*
1982	490.5	0.5*	0*	3.2	1.1	0.6*	1.0	..	-3.7
1983	..	2.0	..	2.7	..	2.4	..	2.0	..
1981-1985	..	2.0-2.6	..	1.8-2.2	..	2.7-3.4	..	..	..
German Democratic Republic									
1976-1980	5.0	4.2	2.6	1.3	6.0	5.0	5.0	3.3	..
1979	179.2	4.3	4.0	1.3	2.3	5.5	4.6	2.9	-0.5
1980	187.1	4.8	4.4	0.5 ^c	0.0	4.7	4.7	5.3	1.4
1981	196.0	5.0	4.8	0.8 ^c	1.5	5.0	4.7	2.8	4.1
1982	201.8*	4.8	3	0.2 ^c	-3.6*	4.6	3.2	2.5	4.2
1983	..	4.2	..	1.0 ^c	..	3.8	..	1.4	..
1981-1985	..	5.1	..	1.1	..	5.1	..	3.4	..
Hungary									
1976-1980	..	5.4-5.7	3.2	3.2-3.4	2.9	6.0	3.4	5.5-6.0	2.4
1979	554.3	3.0-4.0	1.9	3.0-3.5	-1.1	4.0	3.0	1.0	0.8
1980	581.0	3.0-3.5	-0.8	5.0-5.5	4.3	3.5-4.0	-2.0	3.0-2.5	-3.0
1981	631.4	2.0-2.5	2.0	3.0	1.0	3.0-3.5	2.8	-1.0	-0.2
1982	681.9	1.0-1.5	1.5-2	4.0-4.5	5	2-2.5	2	(-1.0)-(-2.0)	-1.0*
1983	..	0.5-1.0	..	1.0-2.0	..	1-2	..	(-2.0)-(-3.0)	..
1981-1985	..	2.6-3.2	..	2.3-2.8	..	3.5-4	..	2.1-2.7	..
Poland									
1976-1980	..	7.0-7.3	1.2	3.0-3.5	0.5	8.2-8.5	4.7	7.4-7.7	-0.7
1979	1 935.4	2.8	-2.3	3.9-4.8	-1.5	4.9	2.7	..	-5.1
1980	1 986.6	1.4-1.8	-6.0	5.8	-10.7	3.0-4.2	0.0	..	-10.0
1981	2 154.7	-3.7 ^d	-12.1	5.0 ^{d*}	5.4	0.0 ^d	-10.5	..	-25.8
1982	..	-1.6*	-8	5.0*	-4.5	0.6*	-4*	..	-8*
1983	..	2.0-2.5	..	1.5-2.4	..	3.7-4.0 ^e	..	..	..
1983-1985	..	3.5-5.6	..	2.0-3.8	..	3.8-5.4	..	..	..
Romania									
1976-1980	..	10.0-11.0	7.3	5.1-7.6	4.9	10.2-11.2	9.5	..	5.8
1979	449.3	8.8	6.2	5.1-5.6	5.5	11.3	8.1	8.3	3.0
1980	508.7	8.8	2.9	4.7-6.0	-4.1	11.4	6.5	..	-0.8
1981	530.7	7.0	2.2	9.0 ^c	-0.9	8.1	2.6	..	-4.8
1982	627.9	5.5	2.6	6.0-7.9	7.5	4.7 ^f	1.1	..	..
1983	..	5.0	..	5.1-5.6	..	6.6 ^f	..	..	..
1981-1985	..	7.1	..	4.5-5.0	..	7.6	..	8.8	..
Soviet Union									
1976-1980	..	4.7	4.3	3.0	1.7	6.3	4.5	..	2.0
1979	440.6	4.3	2.2	5.8	-3.1	5.7	3.4	..	1.3
1980	458.5	4.0	3.9	8.8	-1.9	4.5	3.6	..	1.1
1981	482.1	3.4	3.3	11.7	-1.0	4.1	3.4	..	2.3
1982	501.0*	3.0	2.6 ^g	10.2 ^h	4	4.7	2.8	..	..
1983	..	3.3	..	10.5	..	3.2	..	..	..
1981-1985	..	3.4	..	2.5	..	4.7	..	..	..
Byelorussian SSR									
1976-1980	..	6.0	5.2	2.3	1.5	7.4	7.2	..	1.4
1979	..	6.0	3.0	3.6	-5.0	6.2	6.9	..	-0.6
1980	..	7.0	4.0	3.8	-10.0	5.9	6.0	..	0.1
1981	..	3.9	5.0	18.9	10.0	4.1	5.0	..	0.6
1982	..	4.2	2.0	9.3	-5.7	4.3	4.7	..	..
1983	..	3.8	..	12.0	..	3.4	..	..	..
1981-1985	..	4.3	..	2.1	..	5.1	..	..	..

TABLE 3.1.1 (CONTINUED)

	Net material product (billions of national currency units) at current prices	Net material product		Gross output					
		Plan	Actual	Agriculture ^a		Industry		Construction ^b	
				Plan	Actual	Plan	Actual	Plan	Actual
<i>Ukrainian SSR</i>									
1976-1980		4.9	3.4	2.5	1.6	5.9	3.9	..	-1.7
1979	76.4	4.2	1.0	4.5	-6.1	5.2	3.0	..	-2.0
1980	77.5	3.5	1.0	10.1	-4.9	4.0	2.2	..	-3.9
1981	79.9	3.8	3.0	16.9	1.7	3.5	2.8	..	0.1
1982	86.0	3.6	3.5	..	5.3	4.0	2.7	..	..
1983	..	3.0	..	10.2	..	2.8	..	..	..
1981-1985	..	3.6	..	2.3	..	4.2	..	..	..
<i>Eastern Europe</i>									
1976-1980	..	6.6	3.9(5.0 ^c)	3.6	1.9	6.4	5.6	..	..
1979	..	4.6	2.5(4.5 ^c)	4.1	0.7	6.0	4.5	..	..
1980	..	4.2	0.7(3.2 ^c)	4.8	-3.8(-0.2 ^c)	5.2	3.0(4.2 ^c)	..	..
1981	..	2.8	-1.1(2.7 ^c)	4.5	1.9(0.3 ^c)	3.9	-0.5(3.4 ^c)	..	..
1982	..	2.4	-0.1(2.3 ^c)	4.1	0.6(2.8 ^c)	2.8	0.6(2.2 ^c)	..	..
1983	..	3.3(3.6 ^c)	..	2.5	..	4.1	..	..	..
1981-1985	..	3.8	..	2.9	..	..	..	..	..
<i>Soviet Union and Eastern Europe</i>									
1976-1980	..	5.3	4.2	3.2	1.7	6.3	4.8	..	..
1979	..	4.4	2.3	5.2	-1.8	5.7	3.7	..	..
1980	..	4.1	2.9	7.4	-2.6	4.7	3.4	..	..
1981	..	3.2	2.0	9.2	0	4.0	2.2	..	..
1982	..	2.8	1.8	8.1	2.8	4.2	2.2	..	..
1983	..	3.3	..	7.8	..	3.4	..	..	..
1981-1985	..	3.5	..	2.6	..	4.4	..	..	..

Sources: National statistics, plans and plan fulfilment reports.

Note: Throughout this chapter, unless otherwise stated, average annual percentage changes over five-year periods are average annual percentage changes between the final year of period shown and the final year of the previous five-year period.

^a For five-year periods average annual percentage changes on the basis of previous five-year period total.

^b Sitework. See footnote a to table 3.4.6.

^c The level of NMP shown for the German Democratic Republic is expressed at 1980 constant prices. The planned target for agriculture in the same country is expressed throughout in terms of net output (including food processing) as is that for Romanian agriculture, plan 1981.

^d Data refer to targets of the draft plan, at current prices, as reported in *Trybuna Ludu*, 20 December 1981, p.2 and 15 January 1982, p.3.

^e Sales at constant prices.

^f Commodity production.

^g NMP used for net capital formation and consumption.

^h On the basis of 1976-1980 average annual output.

ⁱ Excluding Poland.

since the downward trend began in 1973. However, according to official national assessments, the overall economic situation in the country is still rather difficult and complex.¹⁹¹ Management of the foreign debt and debt servicing – despite a rescheduling of payments falling due in 1980 and 1981 – still faces the serious difficulties discussed in detail in Chapter 4 below. The overall social situation in the country has somewhat improved and by the end of 1982 martial law was largely lifted. But the full restoration of relations between all social forces has apparently still not taken place. A 2.3 per cent increase in NMP is planned for 1983 within the framework of the three-year national development plan of the country. Taking all factors into account (including the low level to which NMP has fallen so far) the target is not unreachable, but it is subject to great uncertainty. If achieved, it would represent the first increase in the level of the country's national income since 1978.

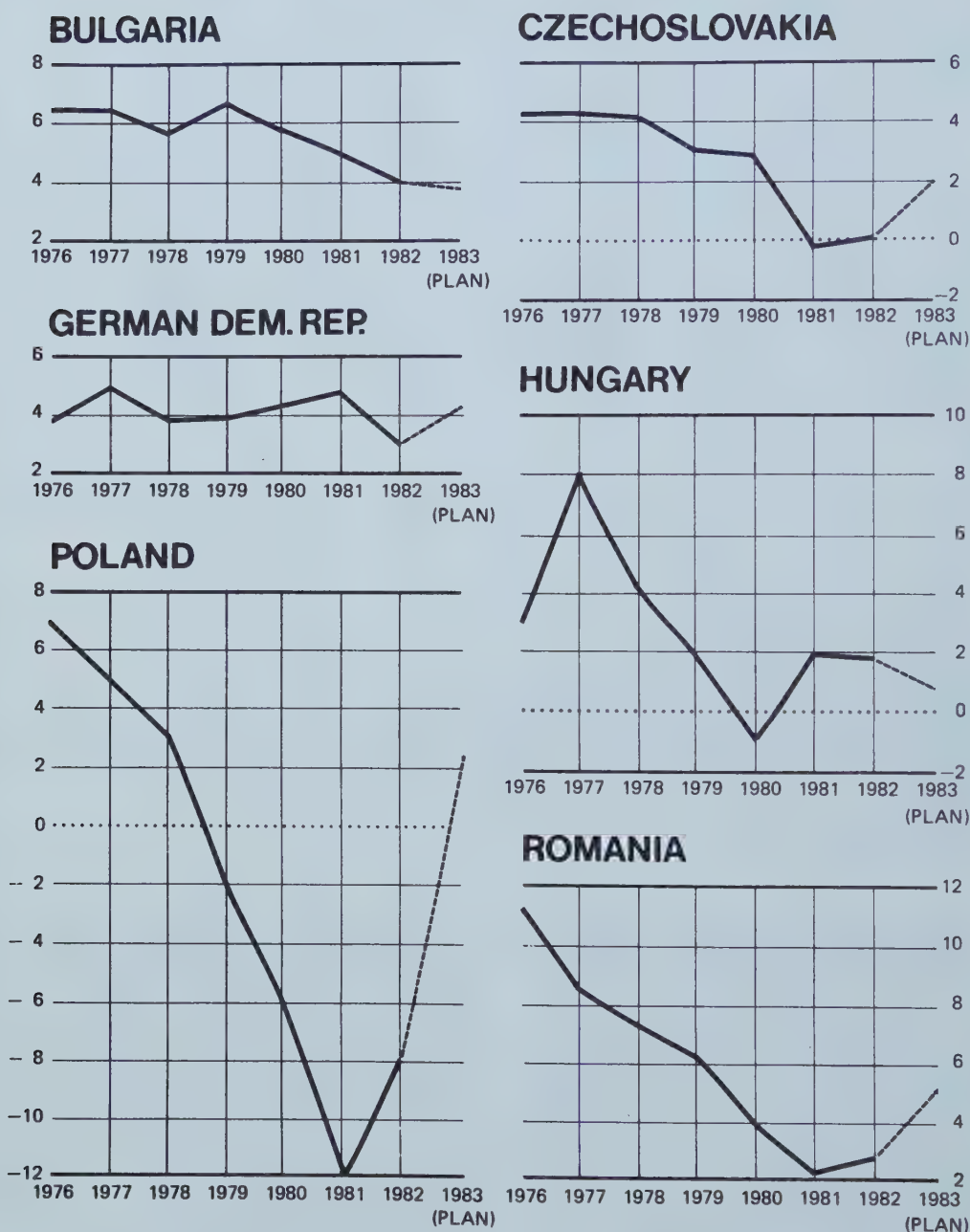
¹⁹¹ At the session of the Sejm (the Polish parliament) at which the resolution on the three-year plan for 1983-1985 was approved, the rapporteur, Mr. J. Kaminsky, besides others, stated: "A point of reference for all prognoses and planning work is the diagnosis of the current state of the economy. This diagnosis is generally known: lack of economic equilibrium, a distorted market, large debts, a low level of industrial production, budget shortfalls, and rising inflation which has been increased by the pressure exerted by some milieux for increases in monetary income without corresponding increases in the production of goods and services". – *Trybuna Ludu*, 29 December 1982.

A pronounced moderation in the main indicators of economic development also took place in *Romania*. Though of a smaller magnitude than in Poland, it was still very substantial relative to the rest of eastern Europe. It is of interest that Romania too recorded rather high average annual growth rates in 1971-1975, even higher than in Poland (11.3 per cent, as against 9.8 per cent in Poland). After 1976, a year when NMP growth was recorded at the same rate as in the previous quinquennium, downward changes continued to gather momentum over the next four years – on average by more than 2 percentage points per year. The average annual growth rate of NMP in 1976-1980 amounted to 7.3 per cent, as against the 10-11 per cent envisaged in the corresponding five-year plan and the 11.3 per cent attained in 1971-1975. Nevertheless, the five-year plan strategy for 1981-1985 adopted by the national authorities included nearly the same growth rate as for 1976-1980 (an annual average of 7.1 per cent). Romania's overall level of economic development – it is the least industrialized country in the region – still left some room for fast economic growth. But, judging by the performance actually achieved in the first two years of the 1981-1985 period, it seems that those possibilities were nevertheless overestimated, as the average NMP growth rate of the country in 1981-1982 (2.4 per cent) was roughly one third of the average envisaged for the five-

CHART 3.1.2.

GROWTH OF NET MATERIAL PRODUCT

(Annual percentage change)



year period as a whole (7.1 per cent). By the end of 1982, the national authorities explicitly described Romanian economic performance in 1981–1982 as unsatisfactory.¹⁹² A set of measures to boost economic growth in the remaining years of the quinquennium was announced. Most of them deal with factors which constrained economic growth in previous periods – debt and debt

servicing, the high consumption of energy and raw materials per unit of output, the still high import dependence of some crucial sectors of the national economy and lagging agricultural output. Achievement of the changes called for in all of these areas would certainly be required if the ambitious 5 per cent NMP growth target for 1983 is to be attained. This annual growth target, even if achieved, does not make it certain that the five-year plan objectives for the 1981–1985 period will be reached. To do so would require more than a doubling of the already ambitious 1983 planned growth rates in each of the remaining two years of the

¹⁹² "In the first two years of the five-year plan, net industrial production increased about 7 per cent and commodity production by about 5 per cent. We must state frankly before the National Conference and the people that these rates of development are unsatisfactory". – *Scinteia*, 17 December 1982, p.3.

plan. The national authorities now rightly insist therefore on some speeding up of economic growth in 1983–1985 as compared with 1981–1982 rather than on fulfilment of the five-year plan targets at any price.¹⁹³

In the remaining four east European countries the deceleration of economic growth was less pronounced than in the two already mentioned. In addition, their longer term paths of economic development include particularities which influenced their growth in 1982, in addition to the medium term developments observed over 1979–1982.

In *Czechoslovakia* three periods of economic development can be distinguished since 1976. In the first period (1976–1977), NMP rose at an average annual rate of 4.2 per cent. Constraints leading to a moderation in this performance, however, were already present in this country also, as this two year average rate was less than three quarters of the average rate of advance recorded in 1971–1975 (5.7 per cent). Later on, expansion in 1978–1979 eased to a yet lower rate – an annual average of 3.0 per cent. Up to that point, nevertheless, development in the Czechoslovak economy still maintained a relatively fast tempo and, with Bulgaria and the German Democratic Republic, its performance was the most stable in the region. An abrupt change, however, occurred in 1981, when there was an absolute decline of some 0.4 per cent. It appears that during that year the national authorities took into account the real constraints imposed by the various factors which had brought about the deceleration. Hence for the 1981–1985 plan period a modest 2.0–2.6 per cent average annual growth rate was retained in the final version of the five-year plan. In line with this strategy, an exceptionally low NMP growth rate by historical standards was planned for 1982 (0.5 per cent). In the official report on the performance of the national economy during that year, however, no figure for the growth of NMP in real terms was provided. Taking into account the estimated overall price increases which took place in the country in 1982, the 3.9 per cent nominal increase in NMP reported could imply either fulfilment of the planned 0.5 per cent increase or even a further slight contraction in its level. These development trends in Czechoslovakia in recent years reflected a number of factors. Three of them – the redressment of foreign trade and payments imbalances, the high consumption of the main material inputs per unit of industrial output, and, particularly, the absolute decline in some fuel and raw materials supplies – played the decisive role.¹⁹⁴ Taking into account the efforts undertaken in the country to adapt to new conditions, a recovery to the 2 per cent NMP growth planned for 1983 is possible. Even if this were to be achieved, an average annual growth rate in 1984–1985 twice as high as that

envisaged by the five-year plan would be required if the 1981–1985 targets are to be attained.

In *Hungary*, the development process over the last few years included both upward and downward changes. Though the latter predominated, the slowdown in economic growth of the country would have been quite moderate if there had been no excessive increase in output growth in 1977. In fact, the large jump in the NMP growth rate from 3 per cent in 1976 to an extremely high 8 per cent in 1977 was financed by new borrowing. Hence, the downward adjustment in the next three years successively reduced NMP growth from 8 per cent in 1977 to a 0.8 per cent contraction in its level in 1980 – a downward change of more than 2.8 percentage points annually. This indicates a deceleration second in magnitude only to Poland though it was spread over a shorter period.

A critical evaluation of past development made in the country itself was reflected in the 1981–1985 five-year plan. The plan envisaged a 2.7–3.1 per cent average annual NMP growth for the quinquennium, and also included an explicit statement that, depending on circumstances, actual growth might fall outside the range proposed.¹⁹⁵ Developments in 1981 and 1982 seemingly confirmed the option chosen. In 1981, NMP in Hungary rose by 2 per cent. In 1982, however, development was highly influenced by an unexpectedly tense situation in foreign payments caused by the withdrawal of foreign deposits in the National Bank of Hungary in the first half of 1982 and also by difficulties in obtaining new loans.¹⁹⁶ Good foreign trade performance, together with some new net borrowing which became available after Hungary joined the International Monetary Fund in May 1982, helped the country to overcome these problems. In 1982 a further NMP increase of as much as 1.5–2 per cent was recorded. This range might indicate that the recovery of economic growth that started in 1981 continued. However, it could also imply that the slowdown has not yet come to an end. An additional argument for the latter possibility is the very low annual NMP growth rate envisaged for 1983 – only 0.5–1 per cent. Altogether, the growth rates actually attained in 1981–1982 and the planned rate for 1983 (if not substantially exceeded) imply the need for rather high average annual expansion in 1984–1985 (more than three times higher than in 1981–1982) if the five-year plan target of economic growth is to be fulfilled.

The slowdown of economic growth during recent years has been least pronounced in *Bulgaria*. In fact, the downward changes in this country started as early as 1976. They continued in 1977 and 1978. In 1979, when all other countries of the region, except the German Democratic Republic, experienced marked or even

¹⁹³ In the report delivered at the National Conference, Mr. N. Ceausescu, the President of Romania, stated in this respect: "In view of the achievements of the first two years of the five-year plan and of the international economic situation, in the next three years of the fourth five-year plan we will place further stress on the intensive development of all branches of activity, on improving product quality and on enhancing economic efficiency. We do not intend to slow down further our rate of progress or to take shelter and wait for the storm to die down. We are determined to take every necessary measure to increase the speed of our progress despite the difficult conditions. Even if we do not manage to attain the high rates of development established in the five-year plan, we will still endeavour to achieve stronger development than in the first two years". – *Scinteia*, 17 December 1982, p.3.

¹⁹⁴ The importance of this factor for developments in 1982 was emphasized in the report of the Czechoslovak government to the Federal Assembly on 30 March 1982, delivered by Mr. L. Strougal, the Federal Premier (*Czechoslovak Economic Digest*, 1982, No. 4, p.4–5): "This year we must start coping with the limitation, and in some spheres with the reduction of the absolute level of fuel, energy, raw and other material supplies, as well as with limited investments".

¹⁹⁵ The commitment of the Hungarian authorities to this approach has been repeated several times since the five-year plan was adopted. At the end of 1982 it was stated: "We have no free hand in choosing the growth rate, it being formed fundamentally by objective circumstances. It is influenced by such factors as rational import opportunities, the rate of increase of economical, competitive exports, domestic purchasing power fed by the increase of performance, the directions of economic development and the resources available for them, etc. The forcing of growth divorced from these circumstances leads to grave economic problems, influencing detrimentally the fulfilment of other economic goals". – B. Szikszay, "The Hungarian National Economy – Changing to a New Course of Economic Growth, *Marketing in Hungary*, 1982, No. 4, p.11.

¹⁹⁶ At the beginning of 1983, it was confirmed also by Mr. M. Timar, the President of the Hungarian National Bank, *Népszabadság*, 6 January 1983: "From the international financial point of view the first few months of 1982 were characterized by the withdrawal of short term deposits and increasing difficulties in raising medium- and long-term loans". The withdrawal was also commented upon in the western press, e.g. *Economist*, 14 August 1982 and the *Financial Times*, 31 January 1983, though the two sources give different information about the countries concerned.

substantial downward changes in the rate of growth, Bulgaria recorded an upturn (from 5.6 per cent in 1978 to 6.6 per cent). A continuous slowdown in NMP growth rates was recorded later – on average by some 0.8 percentage points annually up to 1982. In that year a 4 per cent growth rate – the highest in the region – was reported. The 3.7 per cent average annual growth rate planned for 1981–1985 is substantially lower than the average annual rate achieved in the previous quinquennium (6.1 per cent). This suggests that the Bulgarian authorities took into account changing conditions in both the national economy and in the international economic situation. Hence, the compound growth rate attained in 1981–1982 (4.5 per cent annually), the highest in the region, is also noticeably higher than the average envisaged for 1981–1985 (3.7 per cent) – the only country in the region for which this is so. The five-year plan targets, therefore, so far seem quite feasible. A further decrease in the NMP growth rate – this time to 3.8 per cent – is laid down in the national annual plan for 1983. This indicates that Bulgarian authorities have retained a strategy for 1983 similar to that of 1982, when “positive tendencies in stable socio-economic development and progressive structural changes in the economy were noted”.¹⁹⁷

The country in which economic developments over the last twelve years have developed in the most stable way is undoubtedly the *German Democratic Republic*. NMP growth during the last seven years showed little change in trend. This is particularly noteworthy if its high level (above 4 per cent) is taken into account. Two factors, both of which might normally be considered as unfavourable, may have played an important role in the overall economic performance of this country. *First*, the energy and raw material bases of the German Democratic Republic are rather limited. Thus the country was not able to participate in the excessive expansion recorded in the first half of the 1970s in most countries of the region. It had to import a great deal of its material input requirements in conditions of deteriorating terms of trade.¹⁹⁸ In 1971–1975, in fact, the German Democratic Republic's average annual NMP growth rate was the lowest in the region (5.4 per cent, as compared with 7.9 per cent in eastern Europe and 5.7 per cent in the Soviet Union). *Secondly*, the transition to a lower, relatively steady growth rate occurred as early as 1975, if not before. Both factors forced the country to tackle the process of adjustment to a situation of ever scarcer and more costly material inputs earlier, and on a larger scale, than any other in the region. The 5 per cent NMP growth rate envisaged for the 1976–1980 period – after the Soviet Union, the lowest one in the region – was 82 per cent attained. This was the second best performance in the seven countries, and not far from the 91 per cent attainment of the target by the Soviet Union. Moreover, economic performance in terms of NMP growth continuously improved in the final years of the period – from 3.6 per cent in 1978 to 4 per cent in 1979 and then to 4.4 per cent in 1980. By the end of 1981 the country approved a five-year plan in which an average annual NMP growth rate of 5.1 per cent was envisaged. The 3 per cent increase in NMP in 1982 – the first but

nonetheless substantial drop in the rate of expansion since 1978 – suggests that the country's capacity to offset adverse factors might have been overestimated. Even if the 4.2 per cent NMP growth target for 1983 is achieved, the German Democratic Republic would have to attain a rather high average annual growth rate in 1984–85 – higher in fact than in any year during the 1970s and 1980s – if the five-year plan targets are to be met. When assessing the actual and likely future performance of the country, it should be mentioned that its already tight energy situation deteriorated during 1982, particularly since the crude oil imports on which the country's five-year plan are based (some 19 million ton per year) were, according to official announcements, cut by 10 per cent (see sub-section (ii) below).

The above analysis of national output growth in eastern Europe and the Soviet Union confirms the assessment made in the *Economic Survey of Europe in 1981*: the various external and internal growth constraints did act as an obstacle to expansion after 1976. The increased stress placed upon the intensification of economic development, and in particular efforts to reduce output costs and especially energy consumption costs throughout the region, inevitably reduced overall growth possibilities. However, it also enabled a start to be made in adapting the structure of output and resource allocation to provide a basis for balanced future growth. The significant efforts made in all countries of the region to counteract the constraints, though not as fully successful as expected, did yield results. The continued slowdown in world economic activity, and the consequent reduction of centrally planned economies' export possibilities to countries outside the region further complicated the effort to redress trade imbalances and reduce foreign debt. Compensatory action on the import side had effects not fully anticipated when the five-year plans were drawn up and approved. Nevertheless, the slowdown in economic growth was smaller in 1982 than in previous years and the adjustments already made were expected to make possible a recovery in 1983. However, the extent to which it will materialize depends heavily on further adjustment of the centrally planned economies to the requirements of intensive, increasingly efficient economic development.

With regard to the sectoral pattern of development, *industry* (table 3.1.1 and chart 3.1.3) contributed the major part of economic growth in both eastern Europe and the Soviet Union. In 1976–1980, average annual growth of industrial output for the *region as a whole* (4.8 per cent) was more than 3 percentage points higher than that of agriculture (1.7 per cent). This partly reflected an unusual sequence of bad harvests in several countries of the region, including the Soviet Union. However, downward pressures on the rate of industrial growth were also present. In the region as a whole the rate of industrial expansion declined continuously from 6.1 per cent in 1977 to 2.2 per cent in 1981 – on average by more than 0.9 percentage points per year. In 1982 there was no further slowdown, but this reflected the specific circumstances of development in Poland. Altogether, since industry is the largest sector of output in all the economies of eastern Europe and the Soviet Union, it can be argued that development in the industrial sector is the factor mainly responsible for the overall growth slowdown described above.

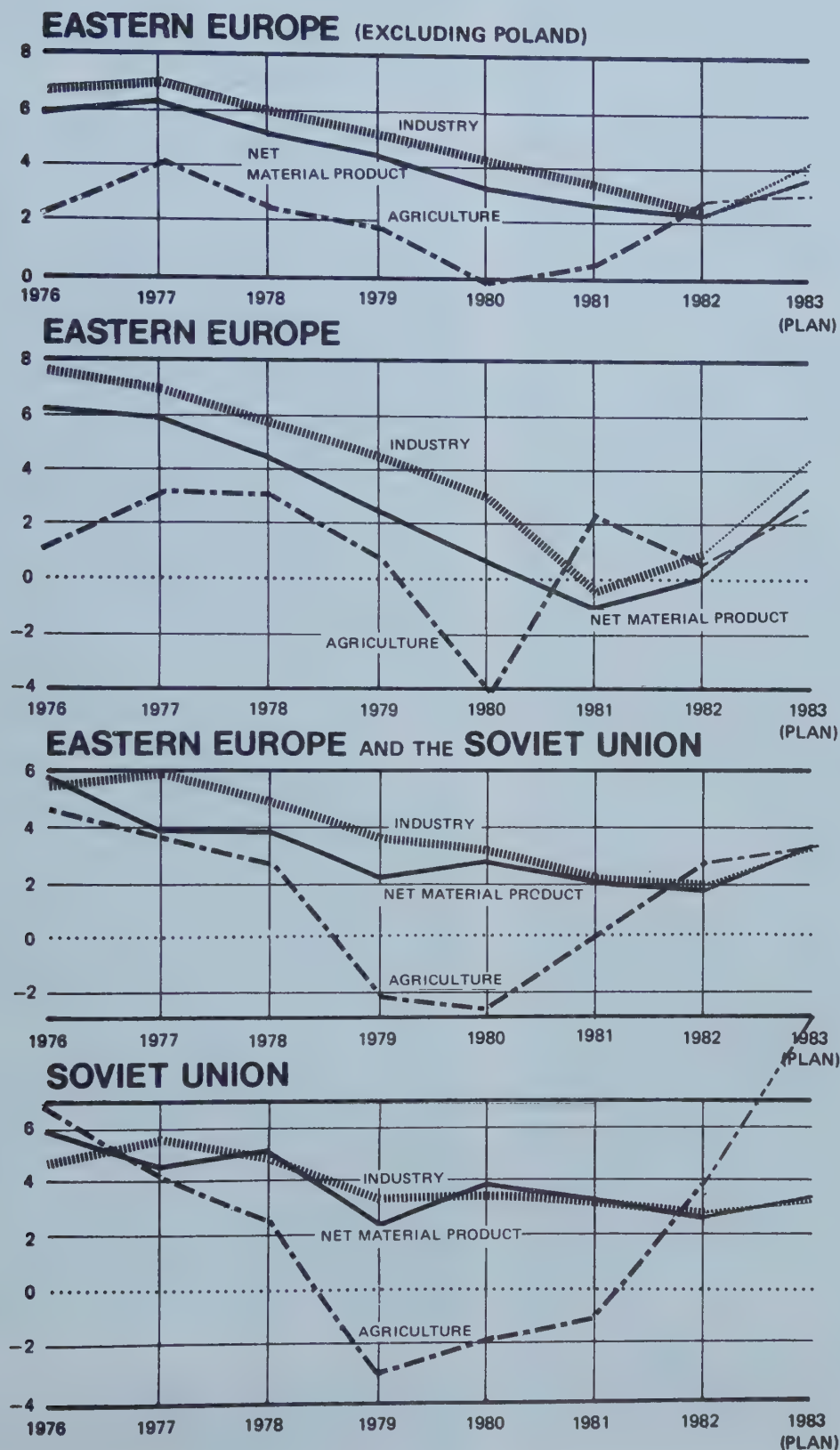
In the case of *eastern Europe*, the downward changes started earlier and were more pronounced. After an excessively high and in the event unsustainable industrial growth rate of 9.4 per cent in 1974, the rate of industrial expansion declined for seven years in a row and ended in an absolute contraction of 0.5 per cent in 1981. This indicates an average change in the growth

¹⁹⁷ *Rabotnichesko delo*, 29 January 1983, p.1.

¹⁹⁸ “Changes on the world markets necessarily have a tremendous effect on our economy. In addition, the German Democratic Republic at present has to import about half of all raw materials and fuels it requires. Their prices, however, are rising much faster than the prices at which finished products, which the German Democratic Republic exports, are sold. This leads to economic strains”. – *The German Democratic Republic's Economy in the 1980s*, Berlin, Panorama DDR, 1982, p.20.

CHART 3.1.3.

PATTERNS OF ECONOMIC GROWTH
(Annual percentage change)



rate of almost 1.4 percentage points per year. The real significance of the decelerating trend becomes clearer if it is mentioned that a slowdown took place even if the special case of Poland is excluded from the calculation. The moderating tempo of growth in eastern Europe excluding Poland has in fact continued into 1982. But it was less pronounced – on average about 0.8 percentage points annually between 1975 and 1982. Development in individual countries varied, as might be expected from the findings of the NMP growth analysis, and is taken up in section 3.3 below.

Agriculture – as a sector uniquely dependent on weather conditions – in principle was expected to follow a path of development quite different from industry. However, a complex of circumstances induced by such diverse factors as weather, the supply of industrially produced inputs through to the management and planning of the sector brought about similar tendencies in agricultural and industrial growth (table 3.1.1 and chart 3.1.3). Taking into account the weight of agriculture in the net material product of the countries concerned – from 9 to 22 per cent in 1975 and from 7 to 17 per cent in 1980¹⁹⁹ – it is clear that agriculture in itself is unlikely to have been the main source of the changes described in overall economic growth. But it is also quite clear that it significantly contributed to these changes, and heavily in some years. It is noteworthy that the downward changes in agriculture were much more pronounced in the Soviet Union than in eastern Europe. Due to its weight in the total agricultural output of the region – roughly two thirds – the slowdown in Soviet agricultural output, including absolute declines in the level of production in the years 1979–1981, was the main determinant of the size and direction of the changes in agricultural output in the region as a whole. In the case of eastern Europe, agricultural output increased at lower than expected growth rates, which also displayed a downward trend. However, only in one year (1980) was there an absolute decline (3.8 per cent) in the level of agricultural output. Individual countries in eastern Europe followed a different path of agricultural growth, as explained in section 3.2.

Few comprehensive figures for the region as a whole are available for the *construction* sector in eastern Europe and the Soviet Union. Figures for 1982, moreover, were reported for only two out of six countries (Bulgaria and the German Democratic Republic). Nevertheless, data in individual years during 1979–1981, particularly when compared with average growth during the 1976–1980 period, give some information on overall changes in the sector. In fact, construction growth rates clearly decelerated in recent years in Czechoslovakia, Hungary, Poland and Romania. An absolute contraction in the volume of construction activity was observed in at least one year in all of these countries. These changes can be explained in terms of the tendencies in overall economic growth, as the construction sector can be regarded as a dependent rather than an explanatory factor in NMP growth. In particular it reflects changes in investment activity. In Bulgaria, growth in construction output since 1975 showed years of both upward and downward changes in the rate of growth,²⁰⁰ but the latter prevailed. Annual growth rates of construction in the Soviet Union also varied, but also declined on the whole. Finally, in the

German Democratic Republic, construction sector growth rates declined in 1976–1979, but they recovered in 1980–1982. Altogether, in later years, developments in construction can also be explained by changes in the pace of overall economic growth, though the relation between the two was weaker. It could be explained, *inter alia*, by levels of construction activity in the housing sector (see section 3.6 below), which recorded less pronounced downward changes in all countries of the region than construction as a whole.

3.1(ii) Factor inputs and efficiency in their use

Analysis of the main outcomes of economic developments in eastern Europe and the Soviet Union in 1976–1980 in the *Economic Survey of Europe in 1981*²⁰¹ demonstrated that the slower development trends recorded in the second half of the 1970s and at the beginning of the 1980s came about in part because of increasing scarcity of all factor inputs and, in the case of material inputs, also because of increases in their cost. Policies included in both the five-year and annual plans for 1982 in all countries of the region therefore call for significant increases in the efficiency of input use in all countries of the region. Though a year is too short a period to bring about important changes in this respect, a short review of recent trends in factor inputs and efficiency in their use is presented in this sub-section.

With regard to the *labour force*, table 3.1.2 and chart 3.1.4 clearly shows two important developments in 1979–1982. *First*, with only a few exceptions, total employment growth in the east European countries and the Soviet Union was rather slow – in most cases below 1 per cent per year. This is a reflection of longer-term demographic processes. Within this generally slow growth, three different situations can be distinguished. In Bulgaria and the German Democratic Republic, the growth of total employment was virtually stable, at around 1.2–1.3 per cent per year in the former and 0.5–0.9 per cent in the latter country. In Czechoslovakia, Romania and the Soviet Union, the rate of growth of employment has been slowly declining, with exceptional and minor upward changes. Finally, in Hungary and Poland, total employment declined in absolute terms – as expected in the first case but not in the second.²⁰² *Secondly*, employment in the material sphere in all countries of the region rose more slowly (or, in cases where total employment fell, it decreased faster) than overall employment. Altogether, the labour force continued to act as a constraining factor, though there are many indications that the existing work force is not always used in the most efficient way.

In a situation of ever scarcer labour resources, national policies have increasingly emphasized the importance of labour productivity growth, both in the five-year and annual plans (section 3.6 below). Judging by the available information (table 3.1.3), however, only partial results in this respect were obtained. In all countries of the region, including those in which labour productivity in some years rose faster than NMP, both upward and downward changes in labour productivity were recorded. Hence, the contribution of labour productivity to NMP growth varied even in the short term. This cannot be explained by the changes in the overall level of skills and capital intensity. Management and planning in some

¹⁹⁹ *Statisticheskii ezhegodnik stran-chlenov SEV* (CMEA Statistical Yearbook), Moscow, Finansy i statistika, 1981, p.44.

²⁰⁰ After 5 per cent in 1976 and 11.2 and 6.9 per cent in the next two years, the output of construction in Bulgaria grew by only 2.9 per cent in 1979 and 3.6 per cent in 1980. It recovered in 1981, with a 5.9 per cent growth rate – *Statisticheski godishnik na Narodna Republika Bulgaria* (Statistical Yearbook of the People's Republic of Bulgaria), Sofia, 1982, p.255.

²⁰¹ *Op.cit.*, pp.133–140.

²⁰² In fact, the contraction of employment in Poland was partly a reflection of a new early retirement option scheme incorporated in a law passed in 1981. Out of a total of 793,000 employees who retired in 1982, some 374,000 or almost one half did so on the basis of the early retirement scheme. *Trybuna Ludu*, 12–13 February 1982.

sectors may have had counterproductive effects in certain respects, but it is not likely that these influences affected growth positively in some years but negatively in others. Hence, it seems plausible that other factors affected NMP growth more than labour productivity itself. If so, growth of labour productivity – for some time at least – has continued to behave as a dependent rather than a determining factor of NMP growth. This point was examined tentatively in the *Economic Survey of Europe in 1981*²⁰³ and in more detail in section 3.6. below. At all events, labour productivity growth in all countries of the region has, so far, lagged behind the average increase explicitly or implicitly targeted in the five year plans for 1981–1985. Developments in this respect, therefore, were subject to critical evaluation in the plan fulfilment reports of several countries of the region.²⁰⁴

Investment is another area in which substantial improvements in performance have been expected in all countries of the region. In the previous quinquennium, the growth of capital intensity in most cases outstripped that of labour productivity and, hence capital productivity declined. In most countries the five-year plans for 1981–1985 envisaged investment growth rates ranging from slightly to substantially lower than those of NMP (table 3.1.4). Only in Bulgaria were these two growth rates expected to approach each other (3.6 per cent and 3.9 per cent respectively). In Romania, an investment growth rate equivalent to some three quarters of the growth of NMP was planned. In Hungary and the German Democratic Republic, investment was expected virtually to stagnate, while in Czechoslovakia and, implicitly, in Poland, an absolute contraction in investment levels was expected during 1981–1985. Altogether, in eastern Europe as a whole, investment was expected to flatten out in real terms. In the Soviet Union, the investment growth rate was planned at a rate below two thirds of the distributed NMP growth (2 per cent as against 3.4 per cent).

According to reported (and in some cases estimated) figures for 1981 and 1982, attempts to improve the efficiency of investment have not proceeded at the desired rate either in eastern Europe or in the Soviet Union. The slowdown in NMP growth was bigger than expected. In most countries urgent requirements to redress foreign trade and payments imbalances exerted heavy downward pressures on resource availabilities overall. Hence, the growing scarcity of resources for domestic use resulted in an absolute contraction in gross investment in most countries of east European countries in 1981 (except Bulgaria and the German Democratic Republic) and in all countries in 1982. The only country of the region in which investment growth continued in both years was the Soviet Union – a rise of 3.8 per cent in 1981 and 2 per cent in 1982. Altogether, in eastern Europe and the Soviet Union taken together, investment virtually stagnated in 1981 and declined by some 0.4 per cent in 1982. This reflects a deliberate intention to provide for further growth – or at least to preserve already achieved levels – in consumption, even at the cost of a contraction in investments and slower NMP growth. Again, it should be recalled that the huge fall in gross investment in Poland (by 22.7 per cent in 1981 and a further 16 per cent in 1982) had a particularly big influence on the aggregates for eastern Europe as a whole.

In conditions of declining or even negative investment growth rates in the east European countries, the emphasis in policies was laid on increasing investment efficiency. As shown in table 3.1.5 and chart 3.1.5, however, there have been no substantial improvements in this respect. In fact, in the fourteen observations for 1981 and 1982 (seven countries in two years), in only one (Bulgaria in 1981) was a positive change recorded in the productivity of capital.²⁰⁵ In all other cases capital productivity declined as it had done in most countries in 1976–1980.²⁰⁶ There have been some qualitative explanations of the phenomenon – deteriorating conditions in energy and in the raw material sectors,²⁰⁷ the share of which in total investment over recent years has increased; the increasing importance of environmental protection investment, etc.²⁰⁸ – but no quantitative information has been published so far. However, it has been acknowledged that if the same trend continues, some countries may in the longer term reach a point at which annual capital costs outstrip increments in net material product.²⁰⁹

No comprehensive aggregate figures for overall *material input supplies* and *material intensity* in 1982 are yet available for the centrally planned economies of eastern Europe and the Soviet Union. In the five-year plans for 1981–1985, all countries stressed that ever scarcer and more costly energy sources and raw material supplies dictated substantial decreases in their consumption per unit of output. The problem is particularly acute in view of the fact that such consumption levels are considerably higher than in the developed market economies. In most countries (as explained in the *Economic Survey of Europe in 1981* and in section 3.3 below) new norms for the consumption of energy and other material inputs per unit of output were set. Additionally, in some countries, new plan indicators were introduced in the form of specific norms for the reduction of costs per unit of gross or net output value. Judging by national reports on the fulfilment of annual plans in 1982, significant results were achieved in both energy and material input savings. But apart from the German Democratic Republic, which has remained an

²⁰⁵ Ratio of NMP to fixed assets in the material sphere.

²⁰⁶ However, it should be kept in mind that in certain conditions – and particularly in the short-term – capital productivity, similarly to labour productivity, may be a dependent rather than an explanatory factor of NMP growth, for example: “In Hungary, capital efficiency has deteriorated in recent years, which is incidentally a natural concomitant of reduced growth. If an economy developing at 5–6 per cent per annum is stopped, it is inevitable that reserves of capacity will arise, since new capacities still expand at the old rate for some time”. – B. Csikos-Nagy, “Development Problems of the Hungarian Economy”, *The New Hungarian Quarterly*, Vol. XXIII, 1982, No. 88, p. 77.

²⁰⁷ Here again the case of the German Democratic Republic is probably the most illustrative: “In order to achieve an annual growth of the national income of about 5 per cent, between 1971 and 1975 3.7 per cent more raw materials and fuels were available each year, the figure dropping to 2.3 per cent between 1976 and 1978 and to less than 1 per cent in 1981–1985. In absolute terms there will be even less energy available overall”. – *The GDR's Economy in the 1980s*, Berlin, Panorama DDR, 1982, pp. 20–21.

²⁰⁸ In Bulgaria, for instance, outlays for the protection of the environment between 1976 and 1981 increased nearly three times (from 111.4 to 314.9 million leva), but the needs of the country in this respect were found to be much higher – *Rabotnichesko delo*, 14 May 1982, p. 3.

²⁰⁹ In the Soviet Union the importance of a balanced relation between capital intensity and capital productivity (*fondootdacha*) was particularly stressed by Mr. E. A. Ivanov, *Osnovnye fondy, proizvodstvo i povyshenie fondootdachi* (Fixed assets, Reproduction and Increase of Capital Productivity), Moscow, Znanie, 1978, pp. 38–39: “Calculations show that over the years of the ninth five-year plan (1971–1975) a total increase of almost 200 billion roubles of national income was obtained from the growth of the labour productivity. In the same period the decrease in capital productivity (i.e. faster growth of capital intensity as compared to its productivity), which for the whole economy fell by 15 per cent, led to the need for an additional 100 billion roubles of investment”.

²⁰³ *Op.cit.*, pp. 167–168.

²⁰⁴ “The main indicator of efficiency of the economy – labour productivity – grows at a pace which does not satisfy us”. – Y.V. Andropov, in *Materialy plenuma tsentralnogo komiteta* (Materials of the Plenum of the Central Committee), Moscow, Politizdat, 1982, p. 8.

CHART 3.1.4

Changes in net material product and factor inputs

(Indices, 1973-1977=100)

BULGARIA

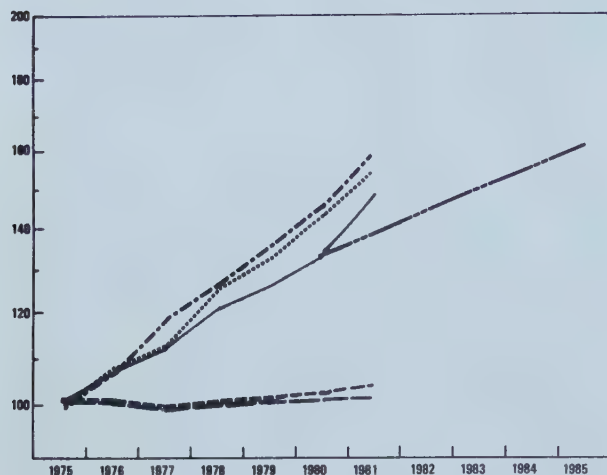
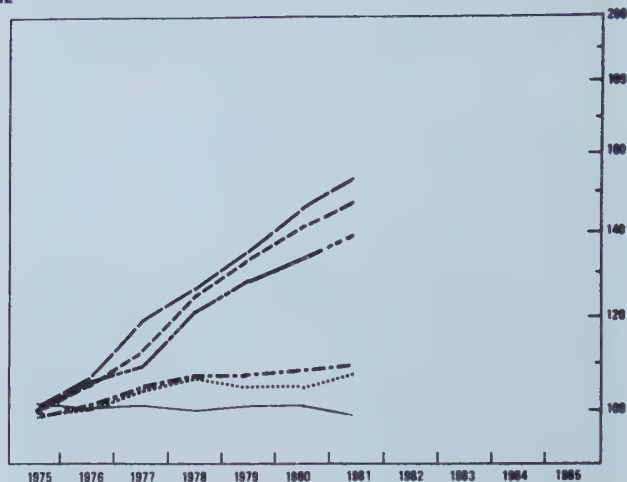


CHART 3.1.5

Efficiency indicators

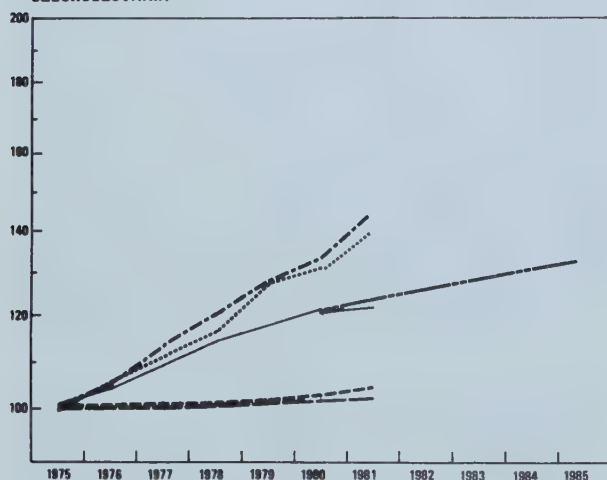
(Indices, 1973-1977=100)

BULGARIE

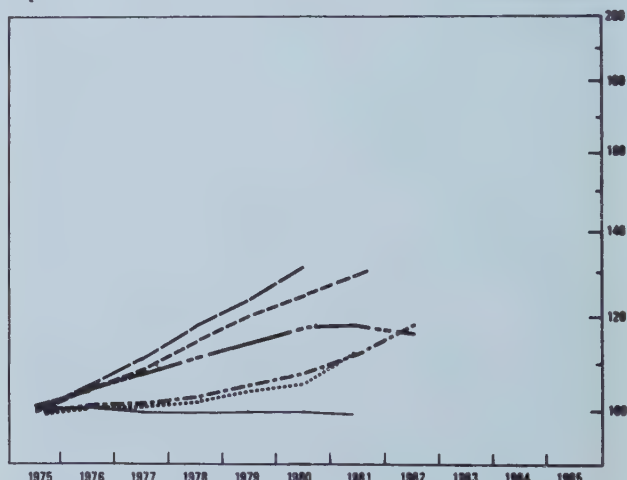


БОЛГАРИЯ

CZECHOSLOVAKIA

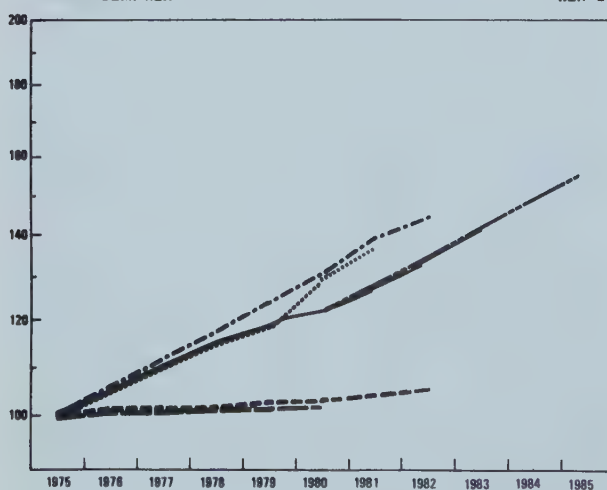


TCHÉCOSLOVAQUIE

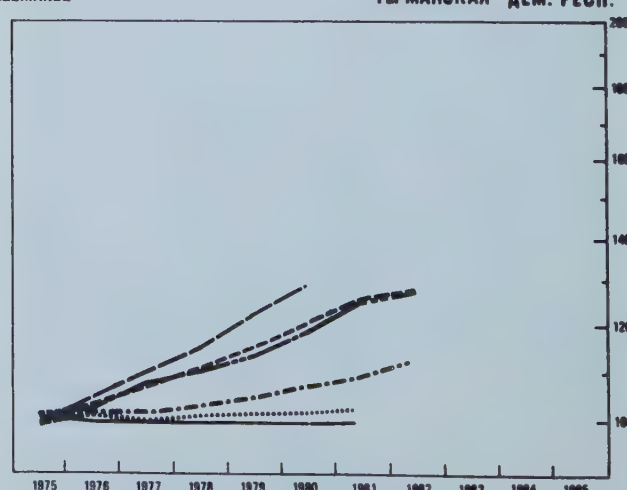


ЧЕХОСЛОВАКИЯ

GERMAN DEM. REP.



RÉP. DÉM. ALLEMANDE

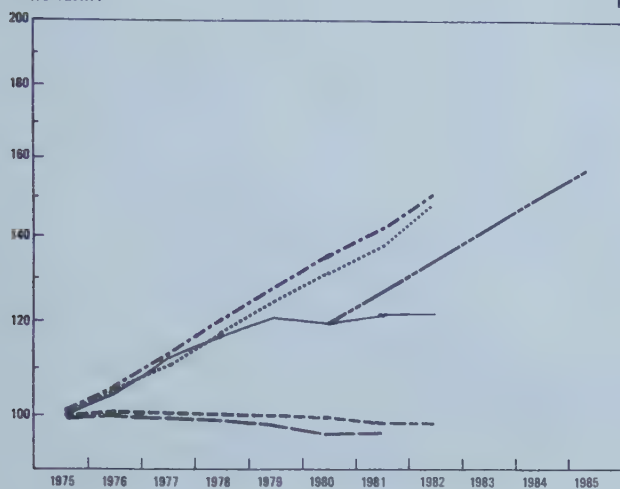


ГЕРМАНСКАЯ ДЕМ. РЕСП.

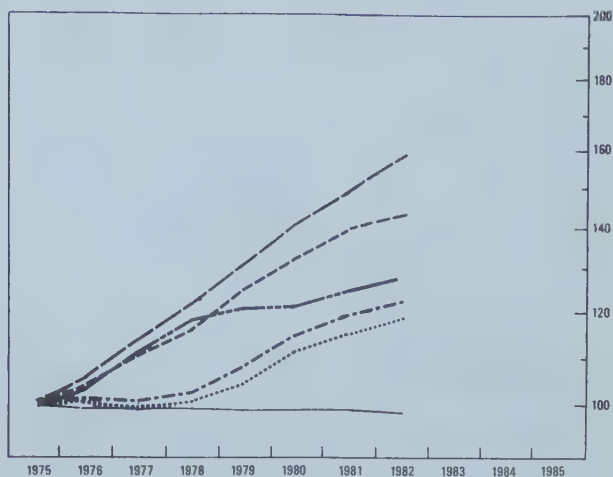
CHART 3.1.4(continued)

CHART 3.1.5 (continued)

HUNGARY

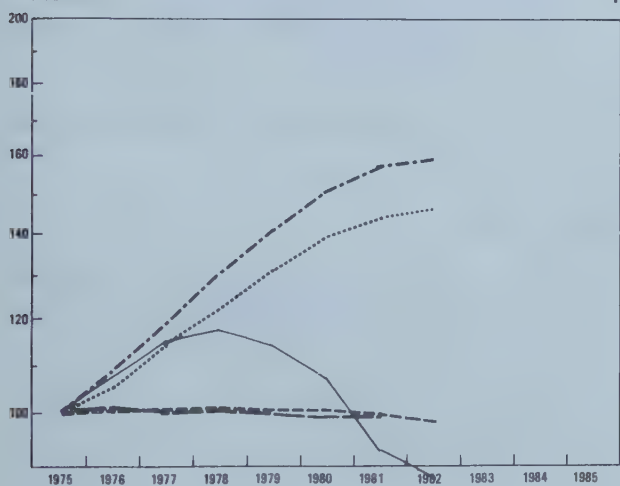


HONGRIE

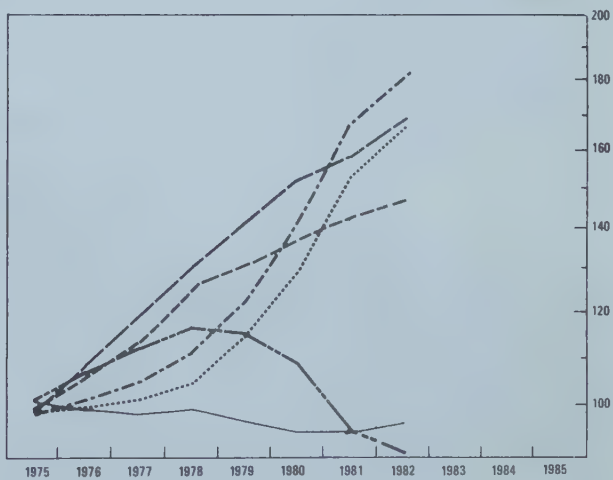


ВЕНГРИЯ

POLAND

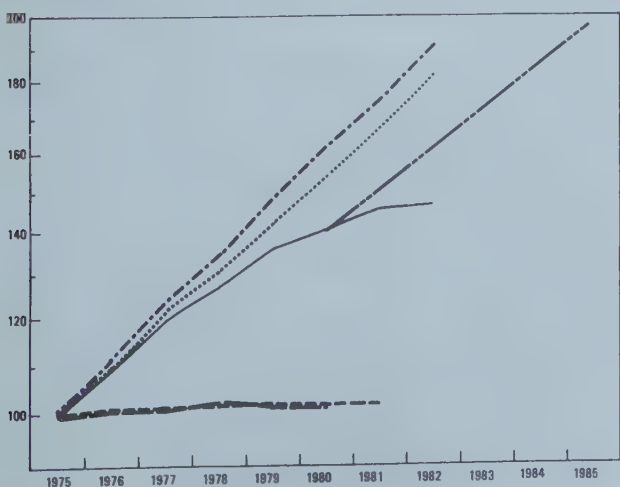


POLOGNE

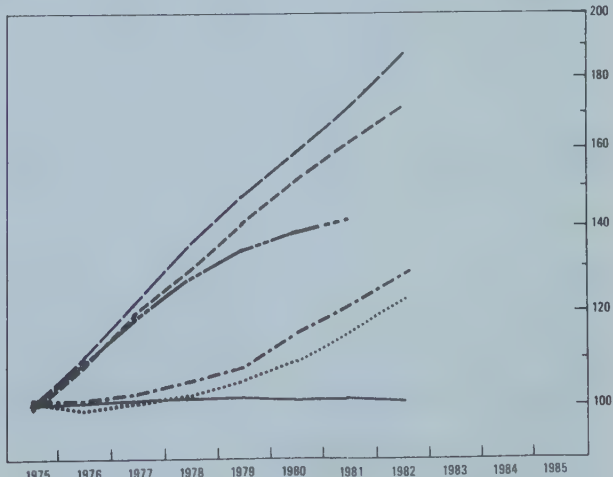


ПОЛЬША

ROMANIA



ROUMANIE



РУМУНИЯ

CHART 3.14(concluded)

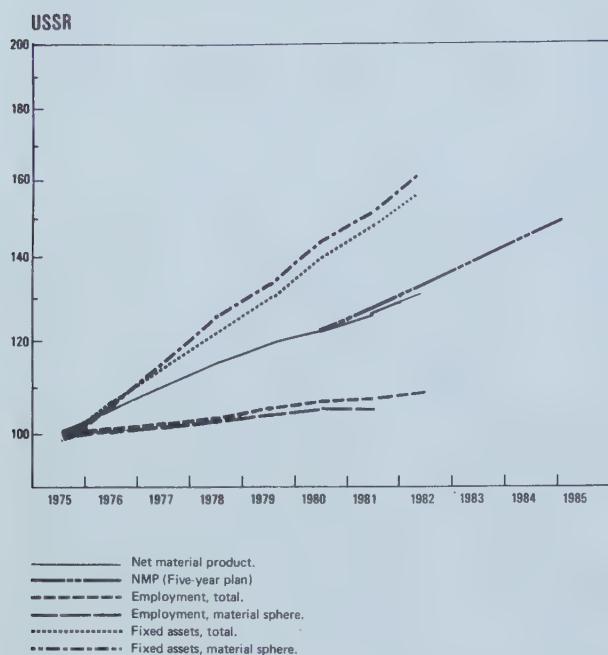


CHART 3.15 (concluded)

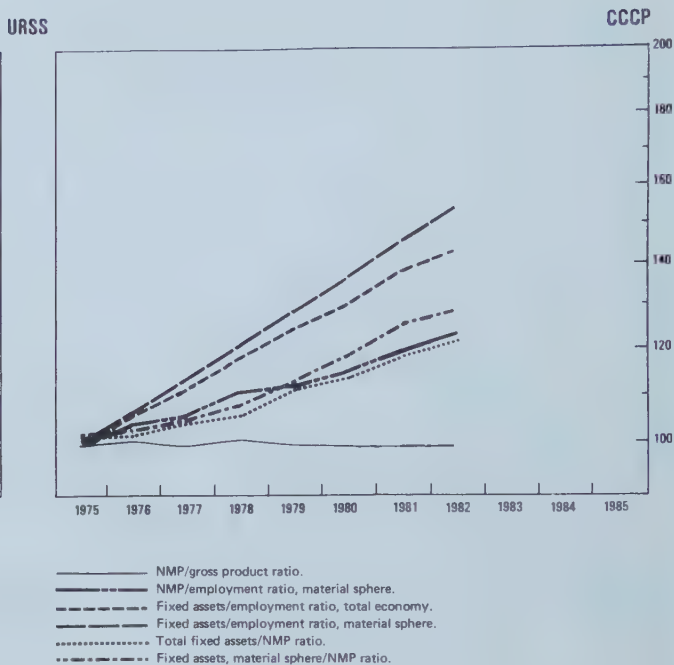


TABLE 3.1.2

Employment, total and in the material sphere
(Annual percentage change)

	Total employment							Employment in the material sphere						
	1976	1977	1978	1979	1980	1981	1982	1976	1977	1978	1979	1980	1981	1982
Bulgaria ^a	5.7	-0.4	0.7	1.3	1.3	1.2	0.7	-0.5	-0.6	0.1	0.9	0.2	1.1	0.1
Czechoslovakia	0.5	0.8	0.9	1.0	1.0	0.7	0.4	0.0	0.3	0.5	0.6	0.4	0.3	0.2
German Dem. Rep.	0.9	0.5	0.8	0.8	0.5	0.9	0.7*	0.6	0.2	0.5	0.5	0.4	0.6	0.5*
Hungary	0.0	0.2	0.0	0.1	0.7	-0.7	-0.2	-0.4	-0.9	-0.5	-0.2	-0.8	-0.3	-0.5*
Poland	-0.1	0.5	-0.1	-0.5	-0.4	0.3	-1.8*	-0.5	0.3	-0.4	-1.0	-0.8	0.1	-4.0*
Romania	0.8	0.4	0.3	0.3	0.3	0.2	1.0	0.3	0.5	-0.4	0.1	0.5	-0.1	0.2
Soviet Union	1.4	1.5	1.6	1.3	1.2	0.9	0.8	1.1	1.2	1.2	0.8	0.7	0.8	0.6*

Source: As for table 3.1.1.

^a Total employment refers to workers and employees only. Employment in the material sphere was estimated from growth of total NMP and NMP per employee in the material sphere.

TABLE 3.1.3

Labour productivity^a

	Annual percentage change						Share in the growth of NMP					
	1976-1980	1979	1980	1981	1982	1981-1985	1976-1980	1979	1980	1981	1982	1981-1985
Bulgaria	6.1	5.7	5.5	3.9	3.9	4.6	100	87	98	79	97	124
Czechoslovakia	3.3	2.5	2.5	-0.6	-0.2*	..	89	81	86	-0.2 ^b	-0.2 ^b	..
German Democratic Republic	3.6	3.6	4.3	4.4	2.5*	4.5*	86	90	98	88	83	88
Hungary	3.7	2.1	0	2.3	1.5	3.2*	116	111	0.8 ^b	115	86	110
Poland	1.7	-1.3	-5.2	-12.2	-4.2	..	142	1 ^b	0.8 ^b	0.1 ^b	3.8 ^b	..
Romania	6.7	6.1	2.0	2.4	2.4	7.0	93	98	69	109	92	96
Soviet Union	3.2	1.4	3.2	2.5	2.7	3.2	74	64	82	76	82	94

Source: As for table 3.1.1.

^a Net material product per employee in the material sphere.

^b Difference between the labour productivity and NMP indices when NMP declined. Negative sign indicates that labour productivity fell more than NMP itself.

TABLE 3.1.4
Gross investment
(Annual percentage change)

	1976-1980	1979	1980	1981	1982	Plan 1983	Plan 1981-1985	Net material product 1981-1985
Bulgaria	4.0	-2.0	7.6	10.4	-11*	6.7*	3.6	3.7
Czechoslovakia	3.5	1.8	1.4	-4.6	-4.0*	-1.7	-1.7*	2.0-2.6
German Dem. Rep.	3.4	1.4	0.3	1.3	-1.6*	-13.4	0.5	5.1
Hungary	2.4	1.0	-5.8	-5.6	-2.5*	-10.0	0	2.6-3.2
Poland	-3.0	-7.9	-12.3	-22.7	-16.0*	1.6	-6.4*	3.2-3.7 ^a
Romania	8.5	4.1	3.0	-7.1	-2.5*	0.7	5.2	7.1
Eastern Europe	2.7	-1.0	-2.2	-7.6	-6.3*	-3.2*	-0.1*	3.3
Soviet Union	3.4	0.7	2.4	3.8	2.0	3.2	2.0	3.4
Eastern Europe and the Soviet Union	3.2	0.1	0.9	0.2	-0.4*	2.3	1.4*	3.5

Source: As for table 3.1.1.

^a Three-year plan 1983-1985.

TABLE 3.1.5
Capital productivity^a
(Average annual percentage change)

	1976	1977	1978	1979	1980	1981	1982
Bulgaria	-3.0	-1.6	-3.9	-0.3	-2.6	-2.3	1.8
Czechoslovakia	-2.1	-3.2	-1.7	-2.8	-2.8	-6.2	-6.0*
German Democratic Republic	-2.0	0.2	-2.4	-1.1	-0.8	-0.6	-4.0
Hungary	2.3	2.6	-1.1	-5.0	-6.9	-3.2	-3.0
Poland	-1.7	-4.2	-5.2	-8.2	-7.0	-15.8	-9.7
Romania	-1.9	-1.5	-2.1	-3.0	-5.7	-5.8	-4.0
Soviet Union	-1.8	-2.2	-3.1	-6.4	-3.4	-3.2	-3.5*

Source: Calculated on the basis of the *Statisticheskii Ezhegodnik Stran Chlenov Soveta Ekonomicheskoi Vzamopomoshchi* (CMEA statistical yearbook), 1981, pp. 41, 49 and 1982 pp. 39, 44 and plan fulfilment reports for 1982.

^a Calculated as the index of NMP divided by the index of fixed assets, minus 100.

exceptional case and a point of reference for the other countries of the region, and, to some extent Hungary, results attained so far are considered unsatisfactory.²¹⁰

Under conditions of still high overall energy and raw materials requirements, supplies of both categories of input continued to act as a constraining factor on economic growth, particularly in eastern Europe. Table 3.1.6 illustrates that this was probably the case for several selected energy and raw material input items shown. In fact, in 1979-1982 only *electricity production* kept pace with output in eastern Europe.²¹¹ *Coal production* decelerated in each of the three years 1979-1981 in both

²¹⁰ A specific problem in the region is very high electricity consumption in winter afternoons, and blackouts were reported by some countries. According to *Ecotass*, No. 4, 24 January 1983, p.24, it is intended to develop reversible, pumped storage stations to cope with such problems in the Soviet Union (so far the country has only one of these, in Kiev) - particularly near Moscow, in the Baltic Republics, in the Ukraine and in the Leningrad region. Another solution, according to the same source suggested by the Soviet daily *Pravda*, is to organize night shifts and to cut the price of power consumed at nights. This would enable power to be used more rationally when there is a surplus. Work should continue at night primarily at production lines which require the minimum number of workers and also in workshops serviced completely by robots.

²¹¹ In the communiqué of the Central Statistical Office of the Soviet Union on economic performance in 1982, it was stated that savings of raw materials, intermediate goods, fuels and energy of 5 billion roubles were achieved, equivalent to 1 per cent of the net material product at current prices. At the same time it was stated that the plan targets in respect of savings of material resources and of the introduction of new techniques and technology were not fully achieved, *Pravda*, 23 January 1983, p.1.

According to national estimates, Czechoslovakia is among the leading countries in the world in total consumption of primary energy sources per capita, while the primary energy consumption per unit of gross domestic product is roughly 50 per cent above the average in

eastern Europe (mostly due to falls in Poland) and the Soviet Union. Absolute declines were recorded in both sub-regions in 1980 and 1981. However, there was a substantial improvement in this respect in 1982 in eastern Europe (once again due to the change, this time an upward movement, in Poland), and a noticeable recovery in the Soviet Union. In the latter case, nevertheless, the level of output was still some 2 per cent (14 million tons) below that of 1978. Probably the most constraining supply factor in the region is the scarcity of *crude steel and rolled ferrous metals*. In both cases overall supplies fell in absolute terms throughout 1979-1982, a fact which limited output in several other branches - the more so as output patterns in this group of commodities have not kept pace with the much more rapidly changing structure of manufacturing output, particularly in the Soviet Union. In that country, the ferrous metallurgy branch has been subject to heavy criticism by plant management and even by ministries in other branches,²¹²

industrially developed countries. See V. Komárek, *Hospodářské noviny*, No. 46, November 1982, p.8.

Dissatisfaction with the efficiency with which energy and raw materials are used was also explicitly expressed in Bulgaria, e.g. in the articles published in *Ikonomicheski zhivot*, 15 December 1982, p.10 and *Rabotnichesko delo*, 11 February 1983, p.4.

²¹² The shortcomings in this branch were also mentioned in the speech of Mr. Y.V. Andropov, the General Secretary of the CPSU at the plenary meeting of the CPSU Central Committee on 22 November 1982, *op.cit.*, p.15: "Setbacks in ferrous metallurgy have become more frequent. Last year (1981) the industry did not meet its plan targets and the situation is the same this year (1982). The national economy has not received several million tons of rolled steel. Responsibility for the situation in the industry should be borne primarily by the Ministry of Ferrous Metallurgy". (Quoted in *Ecotass*, No.49, 6 December 1982, pp.7-8).

TABLE 3.1.6

Selected energy sources and raw materials
(Annual percentage change)

	Bulgaria	Czechoslovakia	German Democratic Republic	Hungary	Poland	Romania	Eastern Europe	Soviet Union	Eastern Europe and the Soviet Union
Steel (crude)									
1979	0.0	-3.3	0.0	0.0	0.0	9.3	1.0	-1.5	-0.8
1980	0.4	2.7	4.3	-2.6	1.6	2.3	1.7	-0.8	0.0
1981	-3.8	0.7	2.7	-5.3	-19.5	-11.5	-6.6	0.3	-1.7
1982	0.4	-2.0	..	2.8	-7.6	0.0	-2.5*	-0.9	-1.4*
Rolled ferrous metals									
1979	3.3	0.0	3.3	0.0	0.7	5.6	1.9	-2.1	-0.9
1980	3.2	0.0	1.6	-6.2	1.3	-2.1	0.0	-0.3	-0.2
1981	3.1	0.0	0.0	-6.7	-17.9	2.2	-5.4	0.1	-1.7
1982	..	-1.9	..	3.6	-5.3	-2.1	..	-1.0	..
Electricity									
1979	3.2	0.0	0.8	0.0	1.6	1.1	0.8	3.0	2.5
1980	7.1	6.8	2.1	-2.4	3.7	3.5	3.7	4.5	4.3
1981	6.3	1.1	1.9	1.3	-5.7	4.3	0.3	2.5	1.9
1982	9.2	1.6	2.2	2.0	2.3	-1.7	3.0	3.0	3.0
Coal-total									
1979	9.3	1.2	1.1	0.0	2.4	11.9	2.3	-1.0	0.7
1980	7.1	-1.3	0.8	0.0	-3.8	7.3	0.6	-0.7	-0.7
1981	-3.3	-0.2	3.3	0.8	-13.7	4.8	-3.2	-2.3	-2.8
1982	8.6	1.5	3.5	-1.9	14.2	2.7	13.6	2.0	8.0
Oil									
1979	..	0.0	..	-9.0	-25.0	-10.0	..	2.5	..
1980	..	0.0	..	0.0	0.0	-8.9	..	3.0	..
1981	..	0.0	..	0.0	0.0	0.9	..	0.9	..
1982	..	..	..	..	0.0	0.9	..	0.7	..

Source: As for table 3.1.1.

and a list of the requirements necessary to bring about the needed improvement was published. With regard to crude oil supplies, Soviet production, which accounts for some 98 per cent of total output in the region, recorded an average annual growth rate in 1981-1982 of some 0.8 per cent, which was virtually the same as that envisaged for the five-year period.²¹³ During the preparation of the five-year plans in 1981, it was announced that the east European countries, in spite of increasing difficulties in obtaining further increments in Soviet production, could count on a rise of some 20 per cent in its energy supplies (in conventional fuel units) in 1981-1985 as compared to the preceding five-year period.²¹⁴ No specific figure for crude oil was mentioned. During 1982, however, several sources have reported that crude oil imports by a number of east European countries have been cut by 10 per cent.

²¹³ In 1980 the Soviet Union's production of crude oil and gas condensate amounted to 603.2 million tons - *Narodnoe khoziaistvo SSSR 1922-1982* (Statistical Yearbook of the USSR, Anniversary Edition 1922-1982), Moscow, 1982, p.182). According to the report of Mr. N. K. Baibakov, the President of the State Planning Committee, on the five-year plan of the country, production of crude oil and gas condensate in 1985 should reach 630 million tons, thus implying an average annual rate of slightly below 0.9 per cent per year. *Ekonomicheskaya gazeta*, No.48, November 1981, p.4.

²¹⁴ "In spite of difficulties linked with the deterioration of conditions of extraction, exports of Soviet energy, calculated in conventional fuel units to the other members of the CMEA over the quinquennium which has just begun, will increase by 20 per cent as compared with the previous one. The Soviet Union supplies fuels and raw materials to fraternal countries at prices which are significantly lower than prices on the world market". N. A. Tikhonov, speech at the XXXV session of the Council of Mutual Economic Assistance held in Sofia in July 1981 - *Vneshniaia torgovlia SSSR*, 1981, No.9, p.4.

In Czechoslovakia and the German Democratic Republic, a similar cut was officially reported.²¹⁵ Since no official statement by the Soviet Union in this respect has been published, there is no comprehensive explanation of this fact. However, the Soviet Union has taken a decision to restructure its fuel-and-energy balance in order to conserve oil for use by processing industries.²¹⁶ The increasing price of crude oil in intra-CMEA trade, the accumulated deficits in the foreign trade balances of east European countries with the Soviet Union (estimated at a sum of 5.4 billion roubles in 1976-1980), the corresponding rise in indebtedness, together with the attempts to reduce energy consumption per unit of output, give an idea of the framework within which reduced imports of crude oil by east European countries can be assessed. At the same time, it is quite clear that their economies have not so far adapted to the new

²¹⁵ In Czechoslovakia the 10 per cent cut in imports of crude oil was mentioned by V. Vertelár, Deputy President of the State Planning Commission, *Hospodářské noviny*, 6 August 1982, p.1. In the case of the German Democratic Republic it is implied in the announcement of Mr. E. Honecker, the President of the State Council of the country, (*Neues Deutschland*, 18/19 December 1982), that the German Democratic Republic will import some 17.1 million tons per year from the Soviet Union, while in 1981 it was stated that over 1981-1985 the country will receive from the Soviet Union 95 million tons, i.e. 19 million per year.

²¹⁶ This was recently reported by *Ecotass*, No. 4, 24 January 1983, p.2: "The 1980s will see the restructuring of the fuel-and-energy balance of the Soviet Union. Specifically it is planned to slash the share of oil in the fuel balance so as to use it in the future predominantly as a chemical and biological raw material; it is planned to use coal and natural gas on a growing scale. This is particularly true of coal from Siberia which can be strip-mined at fairly low costs".

situation and not only the energy sector but also some processing industries have been directly or indirectly affected.²¹⁷

3.1(iii) Foreign economic relations

As already indicated in the previous sub-sections, foreign economic relations have played an important role in the overall development of the economies of eastern Europe in recent years.²¹⁸ In the Soviet Union, the role of foreign economic relations also increased but was nevertheless much less pronounced. In both sub-regions important changes in this respect have taken place in recent years, particularly since 1981.

In the case of eastern Europe three important elements played a decisive role. *First*, foreign debt in convertible currencies over the second half of the 1970s substantially increased. In addition, as mentioned, the east European countries' rouble debt to the Soviet Union over 1976-1980 also mounted. *Second*, rising interest rates over 1981-1982 on convertible currency debt raised the corresponding east European debt service burden to very high levels. This taxed their payments capacity considerably – the more so since access to new credits for this group of countries meanwhile became more difficult. In addition, a number of countries, Hungary in particular, experienced a rundown of foreign exchange deposits with their national banks in 1982. *Third*, foreign trade is still the major (and in most cases the only significant) source of hard currency earnings of the countries concerned. However such earnings have been affected by the widespread recession in the developed market economies which reduced east European export possibilities.

In these conditions, most east European countries in fact had no choice but to reduce their imports to achieve the necessary short-term adjustments to the balance of payments pressure engendered by the above developments. Data in table 3.1.7 clearly illustrate the extent to which the east European countries followed this course. After four consecutive years (1977-1980) of very high import growth rates (on average above 12 per cent annually in value terms) the value of east European countries' imports fell abruptly – by almost 5 per cent in value in 1981 and by a further 4 per cent in 1982. The decline in volume was of a similar magnitude (see section 4.3 below).

The export prospects of these countries were already affected by the recession in the developed market economies noted above, and the cuts in many imported material inputs also led to a decline in export capacity. However, as the adjustment process had been designed to bring about some surplus in the foreign trade balance, east European countries' exports declined significantly less than imports in 1981. In 1982, an upward change estimated at some 4 per cent was recorded. In volume terms, export growth in these two years slowed to an annual average of 2 per cent, compared with a 6 per cent

average in the second half of the 1970s (see section 4.3 below). Export-import ratios, which were around 90 per cent in 1977-1978, meanwhile improved to an estimated 105 per cent in 1982. Hence, the forced adjustment did on the whole work, but at the price of the decelerating NMP growth rates already discussed and of a reduction in resources for domestic use (discussed in the following sub-section and in section 3.5). The sharp contraction in the value of foreign trade turnover in 1981 and its probable stagnation in 1982 also had repercussions on those partner countries whose share of trade with eastern Europe is significant.

There was no similar reason for the Soviet Union to reduce import growth. Its foreign debt is minor compared with its overall economic potential. Its foreign trade has recorded regular overall surpluses in most years, and its terms of trade over the last ten years or so have continuously improved. Soviet export values grew at very high rates in the second half of the 1970s, but since 1978 these reflected mainly price gains on a quite modest volume growth. However, when the price advance ceased, as it did in 1982 in western markets, the Soviet Union was in a position to avoid a revenue loss by increasing the volume of exports. The favourable terms of trade movement permitted the Soviet Union to maintain a rapid expansion of imports – some 7 to 8 per cent in volume terms in each of the last three years (see section 4.3 below).

The overall deceleration in foreign trade of the centrally planned economies of the region did not affect their trade with each region equally. Aggregated data for the region for 1981, and reported or estimated figures for 1982 presented in table 3.1.8, show that foreign trade turnover in value terms with the *developed market economies* fell most noticeably. In the view of the east European countries and the Soviet Union, commercial policies of developed market economies, in addition to other factors, played a significant role in reducing their trade with those countries. The fall was more pronounced in the case of eastern Europe, where absolute contractions of some 9 and 13 per cent in 1981 and 1982 respectively were recorded. This followed an average annual growth rate of nearly 15 per cent in the three preceding years. Among the east European countries, the contraction was sharpest in Poland (an average of 26 per cent annually in 1981-1982). Next was Romania, where trade with this group of countries in the same period contracted by some 22 per cent per year. In the case of the Soviet Union, there was some slowdown in growth in value terms which still left room for a substantial rise in volume (see section 4.3 below).

Foreign trade turnover of the east European countries and the Soviet Union with the *developing countries* also decelerated. But the declining trend was noticeably slower than with the developed market economies. In the case of the Soviet Union, a deceleration was recorded in 1982 only. In the case of the east European countries, it started in 1981 – as in the case of trade with developed market economies. Though an absolute decline did take place, it was only half as big (some 5.4 per cent per year) as in the latter case.

Slowdown of growth in value terms was also noted in trade among the *east European countries* themselves and in trade between eastern Europe as a group and the *Soviet Union*. Due to the deficit of the east European countries with the Soviet Union accumulated in the previous quinquennium, this slowdown started in 1979 – earlier than in the other two regions. However, it was much less pronounced and did not result in a contraction in the value of trade. The flow most affected within the region was trade between the east European countries themselves.

²¹⁷ According to the evaluation of Mr. B. Csikos-Nagy, head of the Hungarian price and material supply office, – *op.cit.* p.85 – these factors were reflected also in the overall economic growth of east European countries: "Due to a noticeable reduction in trade in natural resources within the CMEA, there has been reduced growth in those CMEA countries which are deficient in natural resources".

²¹⁸ Besides the already mentioned case of the German Democratic Republic, this is particularly true for Hungary: "Without foreign trade Hungary's economy would simply lapse to the Stone Age. It is on the world market that most of our production are weighed; moreover the proportion of such goods is constantly growing. This follows from our endowments, from our size and conditions: it is the compulsive trend that progress forces upon us. So we have to face the challenge of the market and be competitive". – J. Marjai (Deputy Prime Minister of Hungary), "How to Explore Factors for Economic Development", *Marketing in Hungary*, 1982, No.4, p.5.

TABLE 3.1.7

Foreign trade of eastern Europe and the Soviet Union
(Annual percentage changes and ratios in current dollar terms)

	Bulgaria	Czechoslovakia	German Democratic Republic	Hungary	Poland	Romania	Eastern Europe	Soviet Union	Eastern and the Soviet Union
Foreign trade turnover									
1976	9.1	7.3	14.9	-20.7	9.0	14.5	6.5	7.2	6.8
1977	15.8	14.3	7.3	17.8	8.0	14.8	11.7	14.3	12.2
1978	18.3	13.6	5.6	15.8	9.6	20.6	12.4	19.8	16.2
1979	15.2	12.8	12.4	16.1	14.5	21.9	15.0	18.8	16.7
1980	15.4	9.7	16.3	7.0	7.0	19.2	12.2	18.4	15.0
1981	7.2	-1.8	10.0	0.5	-20.2	-1.9	-1.4	5.2	0.8
1982	6*	5.2	5*	-0.7	-4.8	-16.8	0	7	4*
Exports									
1976	14.8	8.0	12.6	-18.6	7.1	14.9	6.8	11.7	8.9
1977	18.0	13.7	5.8	17.9	11.3	14.4	12.3	21.6	16.3
1978	17.3	14.4	10.3	9.2	12.2	14.6	12.8	15.9	14.2
1979	18.9	12.3	13.5	24.8	17.7	20.8	17.0	23.6	20.1
1980	17.2	13.1	14.9	8.5	5.0	17.2	12.2	18.2	15.0
1981	3.0	-0.1	14.7	1.3	-21.9	10.6	0.5	3.8	1.2
1982	5*	5.1	8*	-1.7*	5.7	-9.5	4*	8*	6*
Imports									
1976	4.1	6.7	16.9	-22.5	10.6	14.1	6.3	3.2	5.0
1977	13.6	14.9	8.6	17.6	5.4	15.1	11.1	7.3	9.5
1978	19.2	12.8	1.7	21.8	7.4	26.5	12.1	24.1	17.0
1979	11.6	13.3	11.3	9.3	11.7	22.9	13.1	13.9	13.4
1980	13.5	6.5	17.7	5.7	8.9	20.9	12.2	18.6	15.0
1981	11.8	-3.4	5.8	-0.3	-18.8	-5.6	-3.1	6.8	0.3
1982	5*	5.4	1*	-3.0	-15.5	-24.2	-4*	7*	7*
Exports/Imports ratio									
1976	95.6	93.1	86.1	89.0	79.4	100.7	88.6	97.5	92.3
1977	99.3	92.1	83.8	89.3	83.9	100.0	89.5	110.5	98.4
1978	97.8	93.4	91.0	80.0	87.7	90.6	90.1	103.2	95.8
1979	104.1	92.6	92.9	91.3	92.4	89.1	93.3	112.0	101.3
1980	107.5	98.3	90.7	93.7	89.0	86.4	93.2	111.6	101.4
1981	99.0	101.6	98.4	95.3	85.6	101.8	96.7	108.5	102.3
1982	99*	101.4	105*	99.9	109.9	121.5	105	110*	108*

Source: As for table 4.3.7.

3.1(iv) Resources for domestic use

Changes in resources for domestic use²¹⁹ in recent years were similar to those recorded in 1976-1980, in terms of growth relative to NMP produced and allocation patterns within the total.

The growth of resources for domestic use in volume terms in 1976-1980 was characterized by rates of advance slower than those for NMP produced in all countries of the region. As shown in table 3.1.9, the respective average annual growth rates were not very different in the case of the Soviet Union (3.8 as against 4.3 per cent) or in the German Democratic Republic (3.7 against 4.2 per cent). The differences were more pronounced in Czechoslovakia (2.2 against 3.7 per cent) in Hungary (1.9 per cent against 3.2 per cent) and in Poland (-0.2 per cent against 1.2 per cent). In the latter case a deceleration in the overall rate of expansion was followed by an absolute decline, as described in the analysis of trends in NMP produced in sub-section (i) above. The most pronounced difference between the growth of resources for domestic use and growth of NMP

produced was recorded in Bulgaria - where growth of the former was less than half the growth in the latter (average annual rates of 2.8 per cent against 6.1 per cent respectively). Romania does not publish annual data on the growth of resources for domestic use.

The differences in the level of resources for domestic use and NMP produced noted above originate in losses and in the balance between exports and imports of goods and material services. Hence, losses and an export surplus result in a level of resources available for domestic use which is smaller than the size of NMP produced. Conversely, a trade deficit (an import surplus) leads to a level of resources available for domestic use which is larger than the size of NMP produced. If this, together with the export/import ratios presented in table 3.1.7, is taken into account, the slower growth of resources for domestic use than of NMP produced in Bulgaria and the Soviet Union can perhaps be explained by the increase in nominal export surpluses during 1976-1980. In all other east European countries (except Romania in 1976 and 1977), rising nominal import surpluses (i.e. deficits in the balance of foreign trade) were reported in 1976-1980. If the deficits had also been rising in real terms, this would - by definition - imply higher growth rates of resources for domestic use than of NMP produced. An explanation of the observed inverse relationship is to be found in the substantial deterioration in the terms of trade of the east European

²¹⁹ Throughout this section resources for domestic use - often referred to as net material product distributed - are defined as net material product produced minus losses and the balance between exports and imports of goods and material services.

TABLE 3.1.8

Foreign trade turnover by selected regions
(Annual percentage change in current dollar terms)

	Bulgaria	Czechoslovakia	German Democratic Republic	Hungary	Poland	Romania	Eastern Europe	Soviet Union	Eastern Europe and the Soviet Union
With developed market economies									
1976	-6.5	4.2	25.5	9.1	9.4	4.7	10.2	12.8	11.3
1977	0.3	11.1	-10.1	16.2	-1.4	8.3	1.8	2.9	2.3
1978	16.9	11.6	1.1	21.7	4.9	28.8	11.5	13.5	12.4
1979	38.5	20.2	28.5	17.2	9.6	23.0	19.5	35.9	26.9
1980	27.3	14.7	22.9	11.7	7.3	8.6	13.5	23.9	18.5
1981	8.7	-11.1	14.1	-4.7	-33.0	-10.1	-9.1	1.0	-4.0
1982	-6.2*	-7*	-3*	-6.5	-19.5	-33*	-13*	5*	-3*
With developing economies									
1976	2.8	-3.0	20.4	7.8	0.9	31.4	11.5	-0.7	4.8
1977	27.3	31.9	14.9	23.1	15.8	13.6	19.5	30.4	25.2
1978	15.6	2.0	11.6	10.6	8.2	15.6	10.8	10.8	10.8
1979	17.8	8.2	12.7	17.0	41.2	45.9	28.0	15.2	21.0
1980	36.5	22.5	36.3	19.8	29.2	45.4	34.2	27.5	30.7
1981	34.0	0.0	-11.3	-0.2	-27.5	5.0	-1.6	24.0	11.4
1982	..	-8*	..	14.6	-14.6	..	-9*	1*	-3*
Within European CMEA countries									
1976	14.1	10.3	10.7	-35.0	10.4	18.5	4.5	4.7	4.6
1977	18.1	14.1	13.8	17.0	14.4	22.8	15.6	17.7	16.4
1978	17.6	15.0	6.6	12.7	12.1	12.5	12.2	25.2	16.9
1979	11.8	10.4	7.2	15.9	14.2	9.3	11.0	11.0	11.0
1980	11.0	6.6	11.2	1.8	4.1	15.6	8.1	7.2	9.7
1981	3.7	0.5	11.1	3.5	-10.4	10.7	2.4	2.5	2.5
1982	11*	11.0	15	3.5	4.6	-7*	7.8*	9.9	8.8

Source: As for table 4.3.7.

countries.²²⁰ This implies that rising import surpluses expressed in value terms – as in table 3.1.7 – cloaked a net real shift of resources in favour of the foreign balance (i.e. lower net real imports or higher net real exports) – but not at a sufficient rate to offset the terms of trade deterioration. Hence, there was no increase in growth rates of resources for domestic use in volume terms but, on the contrary, a substantially slower rate of growth relative to that of NMP produced. In some cases these movements even involved a contraction in the level of resources available for domestic use (e.g. Hungary in 1979–1980). The analysis in chapter 4 below, as well as conclusions published in the east European countries themselves in various sources, are witness to similar findings.²²¹

Developments in 1981–1982 mainly followed previous patterns. The difference between growth rates of NMP

produced and resources for domestic use in Bulgaria narrowed considerably in 1980. In 1981, resources for domestic use even recorded substantially higher growth rates than NMP produced (7.7 as compared with 5.0 per cent). According to estimates, a reversal of this movement may have occurred in 1982. In the Soviet Union, the difference in growth between the two aggregates significantly diminished after 1979. Growth rates were about the same in 1980 and remained so in 1981. The official report on the fulfilment of the annual plan in 1982 – as has been the case in previous years – included no figure for NMP produced, but only on “national income distributed” i.e. resources for domestic use. Hence, no quantitative comparison between the two was possible at the time of writing. However, as already mentioned in sub-section (i) above, there are some indications that the growth rate of NMP produced in 1982 was noticeably higher than that of resources for domestic use. In all other countries of the region the trend which prevailed in 1976–1980 – slower growth rates of resources for domestic use than those of NMP produced – also continued and the difference between the two widened. This was the result of intensified efforts to obtain export surpluses which are shown in table 3.1.7 and also the further deterioration in the terms of trade of the east European countries. This has been the case for Poland ever since 1976 and for Hungary in

²²⁰ A further explanation of the slower growth of resources for domestic use than NMP produced might be changes in the rate of losses, but their magnitude is such that this explanation does not hold.

²²¹ “Altogether, over the 1970s price of Czechoslovak imports increased by 93.5 per cent and those of exports by 58.3 per cent, i.e. their relationship over 10 years deteriorated by 22 percentage points. (In 1980 for the same volume of imports Czechoslovakia had to export 22 per cent more than in 1970.) Due to these movements of prices, Czechoslovakia ‘lost’ 168.7 billion crowns on account of the import price rise while on account of export prices earned an additional 135.6 billion crowns”. – *Ekonomicheskie i sotsial'nye voprosy stroitel'stva razvitiya sotsialisticheskogo obshchestva v Chekhoslovakii* (Economic and Social Issues of Developed Socialist Society in Czechoslovakia), Moscow, Academy of Sciences, 1982, p.107. The difference between the two figures mentioned – some 33.1 billion crowns – can be understood more easily if it is remembered that at constant prices the average annual value of NMP in 1971–1980 was roughly 374.3 billion crowns. This implies that over the same period the country lost some 0.9 per cent per year of its net material product due to changes in terms of trade.

In Hungary, the terms of trade deteriorated throughout 1974–1981. The deterioration in trade on rouble account was gradual and continuous over the whole period (20 percentage points in total). It was largely confined to two years (1974–1975) in trade on non-rouble account, when Hungarian terms of trade deteriorated by 20.3 percentage points, and fluctuated around the same level over the rest of the period. *Statistikai Evkönyv, 1981* (Statistical Yearbook of Hungary in 1981), Budapest, 1982, p. 251.

TABLE 3.1.9
Changes in NMP produced and NMP used
(Annual percentage change)

Country and period	NMP produced (1)	NMP used ^a (2)	Consumption			Net capital formation		
			Total (3)	Personal ^b (4)	Social ^c (5)	Total (6)	Net fixed capital formation (7)	Changes in stocks (8)
<i>Bulgaria</i>								
1976-1980	6.1	2.8	4.0	4.2	..	0.1	2.4	5.3
1979	6.6	3.5	3.0	2.9	..	5.0	..	..
1980	5.7	5.1	3.6	4.0	22.2	9.5	-42.6	459.3
1981	5.0	7.7	5.3	4.9	7.1	14.8	..	..
1982	4.0	-2*	..	..	..	..	..	..
<i>Czechoslovakia</i>								
1976-1980	3.7	2.2	2.5	1.7	4.8	0.9	0.4	2.6
1979	3.1	1.1	0.9	-0.6	4.8	1.8	-8.5	101.7
1980	2.9	2.7	1.0	-0.1	3.7	8.2	1.1	39.3
1981	-0.4	-4.5	2.2	1.7	3.5	-24.8	-13.3	-61.6
1982	0.0*	-2*	..	..	..	..	..	..
<i>German Dem. Rep.</i>								
1976-1980	4.2	3.7	3.8	3.9	3.1	3.1	3.4	-6.7
1979	4.0	1.6	3.3	4.1	0.6	-5.4	..	..
1980	4.4	4.9	3.0	3.4	-1.2	12.5	..	..
1981	4.8	1.5	2.6	2.7	2.8	-2.4	..	..
1982	3.0	1*	..	..	..	..	..	..
<i>Hungary</i>								
1976-1980	3.2	1.9	3.2	2.7	5.9	-2.3	-2.7	-9.8
1979	1.9	-5.5	2.9	2.4	5.8	-24.9	3.7	..
1980	-0.8	-1.9	1.1	1.0	1.9	-11.3	-9.8	235.1
1981	2.0	0.1	2.4	2.2	3.6	-8.1	-24.6	160.9
1982	1.5-2.0	-2.0	..	1.0	..	-13*	-(10-15)	..
<i>Poland</i>								
1976-1980	1.2	-0.2	4.5	4.4	5.2	-11.8	-9.2	-29.0
1979	-2.3	-3.7	3.1	3.2	2.4	-19.2	-15.4	-39.5
1980	-6.0	-6.0	2.1	2.3	1.2	-29.5	-25.4	-61.3
1981	-12.1	-12.3	0.0	0.5	-2.6	-60.4	-45.7	..
1982	-8.0	-12.0	-13.0	-15.0	..	-2.0	..	..
<i>Soviet Union</i>								
1976-1980	4.3	3.8	4.5	..	..	1.6	..	..
1979	2.2	2.0	..	..	..	-3.3	..	..
1980	3.9	3.9	5.7	..	..	-1.6	..	..
1981	3.3	3.2	3.9	..	..	0.9	..	..
1982	..	2.6	..	..	..	..	..	..

Sources: As for table 3.1.1.

^a NMP used for net capital formation and consumption.

^b Volume of consumer goods supplied to the population

^c Consumption of material goods in institutions providing amenities and social welfare services.

1979-1980. Czechoslovakia suffered a decline in the level of resources for domestic use in both 1981 and 1982 (4.5 per cent and an estimated 2 per cent respectively) and, this was also probably the case, as already mentioned, in Bulgaria. Taking into account the sharp decline in Romanian imports, and the creation of a small export surplus in 1981, and a very big further increase in the surplus in 1982, the same was almost certainly true for this country also. Hence, apart from the Soviet Union, only the German Democratic Republic provided room for further increases in resources for domestic use in both 1981 and 1982, though even in the latter country their growth rates lagged substantially behind those of NMP produced.

Overall allocation of resources for domestic use in recent years reflected both overall socio-economic policies of the centrally planned economies and recent actual development. Concerning the first, great attention is paid in these economies to the so-called basic economic law of the centrally planned economies: the requirement

to provide room for a continuous rise in the standard of living and welfare of the population. This objective is included in general political programmes and in the current five-year plans. Concerning the second, the main factors – deceleration in the growth of NMP produced and, to an even greater extent, in the growth of resources for domestic use – have been already examined. The two requirements, which are not always easy to reconcile, necessarily brought about some changes in the allocation of resources for domestic use. In most cases priority has been given to consumption as against the growth of net capital formation. In fact, a comparison between the two respective growth rate series in table 3.1.9 gives clear evidence that growth rates of consumption in 1976-1980 were already substantially higher than those of net capital formation. In two countries (Hungary and Poland) net capital formation even during that period recorded a contraction (of 2.3 and 11.8 per cent annually respectively). In recent years (since 1980), this tendency has strengthened and – except

in two cases (Bulgaria and the German Democratic Republic in 1980) – the gap between the growth rates of consumption and net capital formation has widened. Moreover, in 1981 all reporting countries of the region except Bulgaria recorded absolute declines in the volume of net capital formation. No figures were reported for Romania. But Romania allocates a very high (36.3 per cent in 1976–1980)²²² share of resources for domestic use to net capital formation (the highest in the region). Given also the slowdown in NMP growth analyzed in sub-section (i) above, it is almost certain that in this country net capital formation also rose much slower than consumption, and may even have contracted. In Poland, a slight (2 percentage point) further decline in net capital formation (against a very sharp 13 percentage point fall in consumption) was reported for 1982. A 10–15 per cent contraction in net capital formation was reported by Hungary. But at the time of writing no other countries had published data on the allocation of resources for domestic use in that year. Developments in the investment sector are shown in table 3.1.4 and analyzed in sub-section (ii) above; from these it seems almost certain that net capital formation in most countries further declined in 1982. Though net capital formation probably rose in the Soviet Union, its growth rate was lower than that of total consumption in the same year.

As far as the *allocation of resources within consumption* is concerned – (see section 3.5 below) – figures presented in table 3.1.9 give only partial information. For three out of seven countries insufficient data for 1982 were available at the time of writing. In the four remaining countries two different orientations can be distinguished. In Czechoslovakia and Hungary, the traditional approach of the centrally planned economies – faster growth rates of social (public) consumption than those of private (personal) consumption – prevailed in both 1976–1980, in 1981, and probably in 1982 (for which no figures are available). In the German Democratic Republic, private consumption rose noticeably faster than social consumption in the 1976–1980 period (average annual growth rates of 3.9 and 3.1 per cent respectively were reported). In 1981, however, social consumption increased slightly faster than private. In contrast, social consumption in Poland grew faster on average than private consumption in 1976–1978. But the opposite relationship has prevailed since 1979, because of the abnormal economic situation in the country.

Figures for the *breakdown of net capital formation* between net fixed capital formation and changes in stocks – a subject analyzed in section 3.5 – are published less frequently than those for the breakdown of total consumption. Available data suggest that changes in stocks were much more pronounced than changes in net fixed capital formation and often moved in different directions.

3.1(v) Policy objectives for 1983

Reflecting the different longer-term and short-term conditions described in the sub-sections above, policy objectives in the individual east European countries and the Soviet Union show variations in both the pace and patterns of developments embodied in the national annual plans for 1983. All countries, however, include measures to overcome the unfavourable trends prevailing in recent years in order to bridge the gap between the present economic situation and the objectives laid down in the five-year plans. Taking into account the common

basic features present in the annual plans of the countries of the region, policy objectives for 1983 will be first analyzed at the level of the region as a whole and of its main parts, and subsequently, in a condensed way, on a country by country basis.

The central policy objective of most centrally planned economies is to accelerate the *growth of national output* as early as 1983 or, in some countries, in the years to come (tables 3.1.1, 3.1.10 and 3.1.11 and charts 3.1.1 and 3.1.2). Coincidentally aggregate annual growth rates planned for 1983 are exactly the same in both eastern Europe and the Soviet Union – 3.3 per cent. If compared with those recorded over the 1960s and 1970s, such a growth rate for the region as a whole does not seem high; actual aggregate NMP growth rates for eastern Europe and the Soviet Union combined were substantially above it in many successive years before 1978. This rate, however, should be evaluated by comparison with the more recent past, as the average NMP growth rate in the region has not risen above 3 per cent in any of the last four years. In addition, a distinction should be made between eastern Europe as a whole and eastern Europe excluding Poland.

It seems evident that the downward trend in *eastern Europe excluding Poland* has slowed down since 1980. Taking into account the NMP growth rates actually recorded in 1982 (2.3 per cent), it seems that the five east European countries could attain a 3.6 per cent aggregate growth target in 1983 under certain conditions, and notably if the overall world situation improves as expected. Thus the key to the achievement of an aggregate NMP growth rate of 3.3 per cent planned for *eastern Europe* as a whole will depend on the realism of the planned NMP growth target in Poland (2.0–2.5 per cent). Compared with the absolute 8 per cent decline in 1982, the achievement of this target would represent not only a change in the trend, but also a large jump in itself. However, the size of this change is much less important than it seems at first sight, given the fact that NMP fell steadily between 1979 and 1982 – to a level roughly equal to that of 1973. Hence the 2–2.5 per cent NMP growth rate envisaged by the annual plan for Poland should be much easier to achieve than in any other country of the region. If the process of normalizing economic development in Poland continues, and the reconciliation of the main social forces involved takes place, the Polish growth target rate, despite uncertainties, is not unattainable. Thus, the same is true of the planned 3.3 per cent NMP growth rate for eastern Europe as a whole.

There are few problems in assessing the *Soviet Union's NMP growth rate* planned for 1983. A number of factors indicate that the target rate retained is realistic. *First*, the Soviet Union's dependence on foreign trade is by far the lowest in the region. *Second*, a comparison between planned and actual Soviet growth rates in previous years shows clear evidence of a rather cautious approach by the Soviet authorities to both its five-year and annual plans.²²³ In fact performance in 1976–1980, if measured by the ratio of actual to planned NMP growth rates (above 91 per cent), was the best in the region. *Third*, a good deal of the deceleration in overall Soviet growth can be attributed to unusually unsatisfactory performance in agriculture in four consecutive years. The measures introduced under the *Food Programme up to 1990* – (see section 3.2 below) improve the chances of fulfilling the agricultural growth target and, therefore, of those

²²² *Anuarul Statistic al Republicii Socialiste Romania 1982* (Statistical Yearbook of Romania), p.49.

²²³ In all of the last three five-year plans (1971–1975, 1976–1980 and 1981–1985) the Soviet Union envisaged lower average NMP growth rates than those attained in each of the previous quinquennia. The same course was followed in six out of the seven annual plans for 1976–1982.

TABLE 3.1.10

Growth of net material product produced
(Average annual percentage change)

	1971-1975	1976	1977	1978	1979	1980	1981	Plan 1982	1982	1981-1982	Plan 1983	1984-1985 ^a	Plan 1981-1985
Bulgaria	7.8	6.5	6.3	5.6	6.6	5.7	5.0	3.6	4.0	4.5	3.8	2.9	3.7
Czechoslovakia	5.7	4.2	4.2	4.1	3.1	2.9	-0.4	0.5*	0*	-0.2*	2.0	4.2-5.8	2.0-2.6
German Dem. Rep.	5.4	3.7	5.1	3.8	4.0	4.4	4.8	4.8	3.0	4.0	4.2	6.7	5.1
Hungary	6.2	2.0	8.0	4.2	1.9	-0.8	2.0	1-1.5	1.5-2	1.7-2	0.5-1.0	4.8-5.3	2.6-3.2
Poland	9.8	6.9	5.0	3.0	-2.3	-6.0	-12.1	-1.6*	-8.0	-10.1	2.0-2.5	4.3-7.1	3.5-3.6 ^b
Romania	11.3	11.3	8.7	7.4	6.2	2.9	2.2	5.5	2.6	2.4	5.0	13.1	7.1
Byelorussian SSR	8.0	6.0	5.0	7.5	3.0	4.0	5.0	4.2	2.0	3.5	3.8	5.4	4.3
Ukrainian SSR	4.6	6.0	4.7	4.5	1.0	1.0	3.0	3.6	3.5	3.3	3.0	4.2	3.6
Soviet Union	5.7	5.9	4.6	5.1	2.2	3.9	3.3	3.0 ^c	2.6 ^c	3.0	3.3 ^c	3.8	3.4 ^c
Eastern Europe	7.9	6.2	5.9	4.5	2.5	0.7	-1.1	2.4	-0.1	-0.6	3.3	8.6	3.8
Eastern Europe (excluding Poland)	..	6.0	6.3	5.1	4.5	3.2	2.7	3.6	2.3	2.5	3.6	7.7	4.8
Eastern Europe and the Soviet Union	6.3	6.0	5.0	4.9	2.3	2.9	2.0	2.8	1.8	1.9	3.3	5.3	3.5

Source: As for table 3.1.1.

^a Implied by the annual average NMP five-year plan growth rate, NMP growth in 1981-1982 and the NMP annual growth rate planned for 1983.

^b Three-year plan 1983-1985.

^c Net material product used for net capital formation and consumption.

TABLE 3.1.11

Selected indicators of annual plans for 1983

	Bulgaria	Czecho- slovakia	German Democratic Republic	Hungary	Poland	Romania	Soviet Union	Byelorussian SSR	Ukrainian SSR
Net material product	3.8	2.0	4.2	0.5-1.0	2.0-2.5	5.0	3.3	3.8	3.0
Agriculture (gross product)	2.7	2.7	1.0	1.0-2.0	1.5-2.4	5.1-5.6	10.5	12.0	10.2
Industry (gross product)	4.8	2.4	3.8	1.0-2.0	3.7-4.0	6.6	3.2	3.4	2.8
Construction	3.7	2.0	1.4	(-2.0)-(-3.0)	..	..	..	..	..
Employment in material sphere	-0.1*	0.2*	..	-0.5*	..	..	0.2	0.5	0.0
Labour productivity	3.9	1.8*	..	0.8*	..	..	3.1*	3.3	3.0
Gross capital formation	6.7*	-1.7*	-13.4*	-10.0	-1.6*	0.7	-3.2	5.8	0.0
Gross incremental capital output ratio	9.6*	14.7*	5.3	37.6	11.5*	6.9	8.7*	..	..
Foreign trade turnover	8.0	..	13.0	..	11	13.5	..	..	..
Exports	..	..	..	7.0	..	..	..	..	..
Imports	..	..	..	0.0	..	..	..	..	..
Real incomes per capita	2.8	..	..	-1.5-2.0	-3.0	3.4	3.0	3.1	3.0
Retail trade turnover	4.1	2.0	3.0	-1.0*	11.2	3.0	5.4	5.0	6.0

Source: As for table 3.1.1.

branches dependent on agricultural output. *Fourth*, another set of measures has recently been introduced or announced to check shortcomings in two other sectors affecting overall economic performance of the country – ferrous metallurgy and transport, particularly railways. *Fifth*, but not least, if the final growth figure of NMP produced in 1982 confirms that real growth in 1982 was above the 2.6 per cent reported for NMP distributed (resources for domestic use), then the 3.3 per cent Soviet NMP growth target for 1983 would seem to be even more accessible. Because of the weight of the Soviet Union in the region as a whole, the same would be true in this case for eastern Europe and the Soviet Union taken together.

In sum, a separate evaluation of the NMP growth rates planned for 1983 in eastern Europe and the Soviet Union reveals nothing to suggest that the 3.3 per cent rise projected for the region cannot be achieved. Even so, overall performance below this rate cannot be excluded in eastern Europe, since the area of planning uncertainty

is – particularly with regard to world trade – wider than for the Soviet Union.

With regard to five-year plan targets, an evaluation of the kind applied to the plan objectives for 1983 is not meaningful (as indicated in sub section (i) above). Though it is too early to give a reliable assessment of the five-year targets, the analysis given above, as also the figures presented in table 3.1.10, already indicate lower than expected performance in 1981-1982. Even if annual plans for 1983 are achieved, therefore, growth performance in 1984-1985 would have to be substantially higher, in some cases very much higher, than in the first two years of the plan period if the final outcome were to fall into line with the five-year objectives. Adjustments in the five-year plans of individual countries, therefore, cannot be excluded in years to come, though so far none have been introduced or announced.

As far as the *pattern of economic growth* in 1983 is concerned, the rather scanty figures included in the

annual plans give ground for only three major conclusions. Industry will continue as the leading sector in both eastern Europe and in the Soviet Union – as in the past – due to its large share in the economies of the region (ranging between 42 per cent in Poland and 68 per cent in the German Democratic Republic in 1981 in terms of NMP produced).²²⁴ The aggregate growth rate of gross agricultural output envisaged in eastern Europe as a whole (2.5 per cent), however, is only slightly lower than the corresponding rate for industrial output (2.8 per cent). The contraction of Soviet agricultural output in 1979–1981 already mentioned, and also the only modest increase in 1982, suggest that the growth rate of agriculture retained for 1983 in the Soviet Union, at 10.5 per cent, may not be excessively high.

The plans of individual countries in 1983, as already mentioned, have many individual features as well as some common characteristics. These reflect their past developments and their present situation, as well as preferences opted for in their five year plans. These individual features have in fact already been mentioned in previous sub-sections. Others will be noted, at a more detailed level, in the sections dealing with industry, agriculture, investment, consumer incomes and supplies, and also in the section on foreign economic relations which follows in chapter 4 below. The present section will conclude with condensed reviews of the national plans of the individual countries of the region (tables 3.1.1, 3.1.10 and 3.1.11 and also chart 3.1.2).

In *Bulgaria*, recent developments and the annual plan for 1983 bring out three main features of economic development. First, overall economic performance in terms of NMP growth in recent years has been quite stable compared with other countries of the region and has moreover, been maintained at rather high rates. Second, the average annual NMP growth rate in 1981–1982 (4.5 per cent) was higher than that envisaged under the five-year plan (3.7 per cent). Hence, the five-year plan could be achieved even if the average annual growth rate in 1983–1985 is significantly lower (around 3.2 per cent) than either in 1981–1982 or than the average planned for 1981–1985 (3.7 per cent). Third, though performance in 1981–1982 was very buoyant in comparison both with other countries and with the five-year plan targets, the annual plan for 1983 envisaged a further slowdown in the NMP growth rate (to 3.8 per cent, as compared with 4 per cent in 1982). If NMP growth falls below the rate planned for the year, 1983 will be the fourth consecutive year in which a deceleration of NMP took place. This followed a 6.6 per cent rise recorded in 1979. A possible explanation for the reduced growth target for 1983 might be foreign trade and payments expectations, and notably the possible cuts in crude oil imports already mentioned. However, no specific indications have been published in the case of Bulgaria. As in most previous years, the growth rate of gross industrial output (4.8 per cent) has been set higher than the agricultural output target (2.7 per cent). For industry, this is roughly the same as the annual rate attained in the previous year (4.6 per cent). The growth rate of agriculture itself, though it seems low in comparison, is in fact demanding, following as it does two years when an average annual increase of 5.3 per cent was recorded. Judging by available information, and following sluggish growth in 1982, construction is expected to recover in 1983. Due to the increasing scarcity of factor inputs, requirements for increasing efficiency in their use have been given greater emphasis

than before.²²⁵ Expected labour productivity growth (3.9 per cent, as compared with 3.8 per cent for NMP), suggests that the whole increment in NMP is expected to result from increased labour productivity, while employment in the material sphere is expected to decrease slightly. The 8 per cent target for foreign trade turnover indicates that, according to the plan, economic relations with other countries, particularly with other CMEA countries and especially the Soviet Union, are expected to grow faster than NMP (3.8 per cent) and domestic retail trade (4.1 per cent). No figures were reported on the allocation of resources for domestic use. But the 2.8 per cent planned increase in real incomes suggests that developments similar to those in 1982 can be expected.

As already partly explained in sub-section (i), *Czechoslovakia* has recently followed a quite different development path. After three years of steady expansion at rates above 4 per cent annually in 1976–1978, the growth of NMP moderated to roughly 3 per cent NMP annually in 1979–1980. It registered a sharp decline in 1981 (when there was in fact a contraction in NMP of some 0.4 per cent). Developments in 1982 have justified the cautious attitude towards both the five-year plan for 1981–1985 and the annual plan for 1982. An overall examination of experience in the recent past illustrated several main reasons for these trends. One concerns the relatively high import dependence of the national economy with regard to fuel. In addition, imports of crude oil have had to be cut – by some 10 per cent since 1982. The process of adjustment to the changing international economic situation, which, *inter alia*, has continuously affected the country's terms of trade, started late. The management and planning system was also found to be partly responsible for the decelerating trend of the economy. Last but not least, three bad agricultural years since 1979, with significant contractions of agricultural output in 1979 and 1981 (3.3 per cent and 2.5 per cent respectively) also contributed to the deceleration process. Judging by the annual plan for 1983, which envisages a 2.0 per cent growth of NMP, the national authorities estimated that – after three years of deceleration and one year of virtually stagnating net material product – there is room for some acceleration in economic growth. The speed-up is based on a 2.4 per cent planned growth rate of industrial output, and an even higher (2.7 per cent) planned rate of growth of agricultural output. In fact, if these two growth targets are achieved, NMP growth could be even higher than the 2 per cent planned, as their combined share in NMP in 1981 amounted to 69 per cent. After several years of slowdown and an absolute decline in 1981 (and probably in 1982 also), construction is expected to recover by 2 per cent in 1983. Judging by the 1.7 per cent planned contraction in total gross fixed capital formation – and the increasing stress placed on improving capital productivity – this increase is probably linked with construction activities abroad and maintenance of the stock of houses. Labour productivity in the economy as a whole is expected to grow by some 1.8 per cent and could thus account for some 90 per cent of planned NMP growth. Tighter requirements have been announced in respect of energy and raw materials saving, and export oriented branches will be given development priority. Retail trade turnover in the country is expected to grow by some 2 per cent, the same as NMP – which indicates that balanced economic growth is to be maintained.

²²⁵ This was underlined by Mr. S. Bonev, the President of the State Planning Committee, *Rabotnichesko delo*, 16 December 1982, p.2: "The Plan envisages a higher number of shifts, greater utilization of productive capacities, and more economical use of raw materials and energy".

²²⁴ *Statisticheskii ezhegodnik stran-chlenov SEV* (CMEA Statistical Yearbook) 1982, p.41.

In the *German Democratic Republic*, the annual plan targets for 1983 are a reflection of the specific medium- and short-term developments already discussed. The 4.2 per cent NMP growth rate envisaged for 1983 is quite high compared with the other countries of the region, and is in fact the second highest after Romania. At the same time, it is relatively low compared with the average annual NMP growth rate envisaged in the five-year plan. However, if both average annual NMP growth in 1976–1980 (4.2 per cent) and the successive growth rates of 4.4 per cent, 4.8 per cent and 3.0 per cent attained in 1980, 1981 and 1982 respectively, are taken into account, the 4.2 per cent increase in NMP in 1983 appears as a reasonable, balanced reaction to recent developments and a target within the limit of possibility. Other targets incorporated into the 1983 annual plan, however, suggest that success in accomplishing the target will depend on substantial future progress in raising the overall efficiency of the national economy. NMP growth will depend on the attainment of a 3.8 per cent increase in gross industrial output (which contributes more than two-thirds of NMP), and of a 1 per cent increase in agricultural output. Both figures take into account further cuts in material costs. The expected sharp contraction in gross investment – by an estimated 13.4 per cent – underlines that requirements in respect of marginal and overall capital productivity will be even more demanding. The same is true for labour productivity, which is to grow by 4 per cent and 3.6 per cent in enterprises subordinated to the ministries of industry and construction respectively. (No figure was reported for expected overall labour productivity.) Foreign trade turnover is planned to grow by 13 per cent. Domestic retail trade turnover (probably in real terms) is planned to increase by 3 per cent.

Hungary is in many respects an exceptional case among the east European countries. After Poland and Czechoslovakia, it is the third country in recent years which has recorded an absolute decline in the level of NMP. In contrast to the mid-1970s, however, Hungary has reacted strongly to the changing world economic climate, as befits by far the most export oriented and import dependent country of the region. The deceleration of economic growth in 1976–1980 in this country was reflected – as in the case of Czechoslovakia – in the modest average annual NMP growth rate planned for 1981–1985 (2.7–3.1 per cent) and in the even more cautious annual growth rate planned for 1982 (1–1.5 per cent). The overall performance of the Hungarian economy in 1982 was above expectations. An annual 1.5–2 per cent NMP growth rate for 1982 was reported, in spite of unexpected difficulties experienced in that year. The five-year plan for 1981–1985 was dominated by two broad objectives: the preservation of the standard of living, and balanced economic development, particularly as far as foreign economic relations are concerned. However, while in 1981–1982 it seems that the first objective took precedence over the second, the annual plan for 1983 makes it quite clear that the second will take priority in the remaining three years of the quinquennium. This strategy explains the choice of the option of a further slowdown of economic growth. Moreover, the NMP growth rate of 0.5–1 per cent envisaged for 1983 is the lowest NMP growth rate envisaged in any other east European country or in the Soviet Union, and one of the lowest experienced in the history of Hungarian planning. However, judging by the relation between planned and actual performance in 1981, there is a possibility that actual NMP growth could be higher than planned. The planned growth rates of both industrial and agricultural gross output (1–2 per cent in both cases), which together accounted for 64 per

cent of NMP in 1981, indicate that NMP growth could be above the planned 0.5–1 per cent. The remaining figures reported in the national annual plan are consistent with the planned NMP growth rate. Resources for domestic use are expected to fall by 2.5–3 per cent. The repercussions will fall, as in previous years, mostly upon investment expenditures, the volume of which are expected to decrease by an estimated 10 per cent. At the same time a definite (0.5–1 per cent) decrease in private consumption is envisaged, together with a slightly bigger reduction of real incomes per capita (1.5–2 per cent). The expanding area of the economy, in line with the general orientation mentioned above, is to be foreign trade. In fact, the whole increase scheduled in trade turnover is expected to originate in exports, which are scheduled to grow by 7 per cent; imports are expected to remain at the level of the previous year.

Medium and short term developments in *Poland* have already been dealt with in some detail in previous subsections, and only a few comments are necessary concerning expectations in 1983. Specifically, as far as the 2–2.5 per cent planned increase in NMP is concerned, an evaluation has already been given at the beginning of this sub-section. Taking into account all circumstances, the growth target seems to be attainable. While success cannot be guaranteed, since many different factors are involved, the NMP growth objective could be attained – and, maybe, over-fulfilled, on the basis of a planned 3.7–4 per cent increase in gross industrial output and a 2.4 per cent increase in gross agricultural production. Labour productivity is expected to grow by 1.6 per cent, which implies some increase in employment in the material sphere (0.4–0.9 per cent). Real incomes per capita are expected to decline further. This implies that the availability of resources for domestic use will be significantly lower than NMP produced, and will, in fact, contract further. Gross investments are expected – after four years of progressive decline – to increase slightly (by 1.6 per cent). This indicates that the decrease in total consumption might be even bigger than that for real incomes. The most expansionary sector, as in all other countries of the region, is to be foreign trade. Turnover is planned to rise by 11 per cent.

As in the *German Democratic Republic* and *Hungary*, the 1983 annual plan of *Romania* reflects both specific recent developments and the five-year plan objectives. The two point in different directions, however. Recent developments suggest historically lower NMP growth rates while the five-year plan strategy requires that the high annual average growth rates of 1976–1980 be maintained. To bridge this gap, the Romanian annual plan for 1983 calls for a 5 per cent NMP growth rate – somewhere between the actual performance in 1982 (2.6 per cent) and the annual average required by the five-year plan (7.1 per cent). As already mentioned, the central feature of present economic strategy is to provide for an acceleration in economic growth in 1983–1985. Fulfilment of the five-year plan targets has been relegated to second place. In addition, the annual growth rates envisaged for industry and agriculture (8 per cent and 6.1 per cent respectively in net value added terms) indicate that the country does not exclude the possibility of more buoyant growth in 1983, since these two sectors account for some 75 per cent of Romanian NMP in 1981. Here again, foreign trade is to be the most expansionary sector (a 13.5 per cent increase in trade turnover is envisaged). Preliminary indicators of exports (a rise of 18 per cent) and imports (a rise of 8 per cent),²²⁶ suggest that resources for domestic use will remain at a

²²⁶ *Scinteia*, 9 October 1982, p.5.

lower level than NMP produced. The same conclusion can be drawn from plan data on the expenditure side, since investments are expected to grow by only 0.7 per cent and retail trade by 3 per cent. These rates are substantially lower than the 5 per cent increase targeted for NMP.

Medium- and short-term developments, as well as the annual plan for 1983 in the *Soviet Union* have already been examined in detail in previous paragraphs and there is little further to add. As already mentioned, the 3.3 per cent NMP target growth rate could be attained if the very high agricultural growth rate (10.5 per cent) and the more moderate industrial gross output growth rate (3.2 per cent) are achieved. The plan projects a 3.5 per cent growth rate for industrial consumer goods, higher than that for industrial producer goods (3.1 per cent). This could provide more room for improving the standard of living within the rise in the level of NMP. In the framework of a 3.3 per cent rise in resources for domestic use ("NMP distributed" - the only NMP aggregate regularly reported for the five-year and annual plans of the Soviet Union), investment allocations are supposed to grow faster (by 3.2 per cent) than total consumption (for which no figure was published). Growth of real incomes per capita (3 per cent) as against growth of average net real monthly wages (1.9 per cent) together indicate that the usual pattern in consumption - faster growth of social than that of private consumption - will be preserved. Plan targets relating to increasing economic efficiency were presented for labour productivity (the 3 per cent increase envisaged in the plan implies that it will contribute more than 90 per cent of the NMP increment). The efficiency of gross investments is also projected to rise (fixed assets put in operation are expected to expand by significantly more than the value of gross investment). The material intensity of production is also planned to decline. Overall performance is also expected to improve in response to strict requirements concerning the improved functioning of all links and levels of the Soviet management and planning system. In particular, work discipline is to be tightened and contractual obligations between enterprises, different kind of associations and ministries are to be more strictly enforced.

No detailed figures are available for developments in the *Byelorussian SSR* or the *Ukrainian SSR* in 1982 or with regard to their annual plans for 1983. Figures presented in tables 3.1.1 and 3.1.10, however, show clearly that in those two Soviet republics some slowdown in NMP growth rates also took place, though not at the same time or to the same extent. In fact, the sequence of NMP growth rates in table 3.1.10 indicates that the decelerating trend in the *Byelorussian SR* started in 1979 (as in the case of the Soviet Union as a whole), while in the *Ukrainian SSR* it started as early as 1977. The rates

of NMP growth, at the same time, show that overall growth decelerated more slowly in the *Byelorussian SSR* than in the *Ukrainian SSR*. This is certainly a consequence of the higher share of agriculture in the *Ukrainian* national output, which was therefore affected to a considerable extent by the four bad agricultural years since 1979. The annual plans of the two republics for 1983 reflect both actual developments in recent years and the objectives embodied in their respective five-year plans for the 1981-1985 period.

The annual plan of the *Byelorussian SSR* for 1983 envisages a 3.8 per cent NMP growth rate - slightly above the average for 1981-82 (3.5 per cent) but lower than the average foreseen in the five-year plan (4.3 per cent). Due to the absolute contraction of agricultural output of the republic in 1982 (5.7 per cent), the growth rate of gross agricultural production is targeted to increase by 12 per cent. This compares with the 3.4 per cent growth rate planned for industry - somewhat lower than the 4.7 per cent recorded in the previous year. Both growth rates seem to be realistic and obtainable. As for the Soviet Union as a whole, labour productivity is planned to bring about a high share - some 87 per cent - of the total NMP increment, while the change in employment in the material sphere (0.5 per cent) should provide for the rest. Gross fixed capital formation is expected to grow by 5.8 per cent, considerably faster than NMP produced. Judging by a planned 3.1 per cent increase in real incomes per capita, however, it seems likely that some part of these investments are to be financed by resources from outside the Republic itself. Retail trade is planned to grow by 5 per cent.

The annual plan of the *Ukrainian SSR* for 1983 envisages a 3.0 per cent NMP growth rate. This is lower than the average attained in 1981-82 (3.3 per cent), and at the same time also falls below the average foreseen in the five-year plan (3.6 per cent). No contraction in agricultural output in 1981-82 took place, but it fell sharply (by some 11 per cent) in the two previous years. Output in 1981 and 1982 recovered only modestly (by 1.7 per cent and 5.3 per cent respectively). The growth rate of gross agricultural production foreseen for 1983 is also very high - 10.2 per cent. Gross industrial production of the *Ukrainian SSR* is planned to grow by 2.8 per cent, or slightly above actual growth in 1982 (2.7 per cent). Employment in the material sphere in the *Ukrainian SSR* is expected to remain constant. Hence, labour productivity should account for the whole of the increment in the national income. Gross fixed capital formation is to remain at the level of 1982. Real incomes are expected to grow by the same rate as in the Soviet Union as a whole - 3 per cent. Retail trade is expected to grow by 6 per cent - one tenth faster than the average for the Soviet Union as a whole (5.4 per cent).

3.2 AGRICULTURE

This section deals with the recent development in agricultural production, inputs and policies. In sub-section (i) the growth of gross agricultural output and its structure in 1982 is compared with the average annual level of the previous five-year period and the planned development of the current five-year plan. In sub-section (ii), crop production levels and structures are analyzed. Sub-section (iii) deals with the fodder supply and the role of fodder imports. Livestock development, including output of the main animal products is summarized in sub-section (iv). Main trends in the supply of inputs and progress in raising the efficiency of production are described in sub-section (v). In sub-section (vi) recent agricultural policy measures announced or implemented in 1982 are presented. In the last sub-section, the main targets of agricultural development in 1983 are outlined.

3.2(i) Growth of output

In most countries, agricultural gross output increased in 1982. Favourable developments in 1981 were followed by further growth in Bulgaria, Hungary and in the Ukrainian SSR. In Czechoslovakia, Romania and the Soviet Union, the period of stagnation in 1979, 1980 and 1981 was followed in 1982 by production increases ranging between 1.1 and 7.5 per cent (table 3.2.1 and chart 3.2.1). In the German Democratic Republic, Poland and the Byelorussian SSR results were not up to the level of the previous year. Gross output decreased in these countries by between 3.6 and 5.7 per cent. In almost all countries (excluding Poland) output in 1982 was higher than the average of 1976–1980. However, the overall picture changes considerably when performance in 1982 is compared with the five-year plan target for 1982 (based on average annual growth rates 1981–1985 to 1976–1980); only Hungary reached the planned output objective.

The structure of gross agricultural output changed in 1982 in favour of crop production (table 3.2.1 and chart 3.2.1). Only in Bulgaria and Hungary was this accompanied by increasing levels of animal production. In all other countries livestock product output stagnated or declined.

In *Bulgaria* the share of animal production in 1981 and 1982 stabilized at the level planned for 1980. In *Czechoslovakia*, the share of crop output in 1982 was, for the first time in the current five-year plan, higher than the average for 1976–1980, but animal production declined, reflecting the drop in fodder output in 1981. Virtually no change in the share of animal production in total output occurred in the *German Democratic Republic* and *Hungary*. However, crop output in the former country is still insufficient to provide an adequate fodder basis for the current high livestock population, whereas in the latter the relation between crop and livestock output is well balanced. In *Poland*, where in 1981 a slight upturn in output followed the disappointing performance in 1979–1980, the share of animal production continued to decrease due to fodder shortages. No information on the structure of output has been reported from *Romania*. Judging by available information, the planned increase in the share of animal production in 1982 did not take place, but some progress is likely in 1983 following good crop production in 1982. The *Soviet Union* could also increase the share of crop in total output and re-establish the same average share as in 1976–1980.

3.2(ii) Trends in crop production

All countries in the region planned to increase the volume and yield of crop production in 1982 in order to improve the fodder basis of animal production and, in some countries, to rebuild the herds or expand export possibilities. In most countries progress was made.

TABLE 3.2.1

Gross agricultural output

Country and period	Annual percentage change			Percentage share of total output	
	Total	Crop	Animal	Crop	Animal
<i>Bulgaria</i>					
1976–1980	2.1	0.4	4.4	54.5	45.5
1979	6.0	5.6	6.5	54.5	45.5
1980	–4.5	–8.7	0.5	52.2	47.8
1981	5.9	10.2	2.2	53.2	46.8
Plan 1982	2.2	..	..	..	..
1982	4.7	6.4	3.0	54.0	46.0
Plan 1983	2.7	..	..	..	..
Plan 1981–1985	3.4	..	..	..	..
<i>Czechoslovakia</i>					
1976–1980	1.6	1.0	2.0	42.0	58.0
1979	–3.3	–7.2	–0.3	41.3	58.7
1980	4.8	6.2	3.9	41.9	58.1
1981	–2.5	–5.3	–0.5	40.7	59.3
Plan 1982	3.2	..	..	..	..
1982	1.1	8.9	–4.2	43.8	56.2
Plan 1983	2.7	5.6	0.0*	45.0*	55.0*
Plan 1981–1985	1.8–2.2	..	..	..	..

TABLE 3.2.1 (CONTINUED)

Country and period	Annual percentage change			Percentage share of total output	
	Total	Crop	Animal	Crop	Animal
<i>German Democratic Republic</i>					
1976-1980	1.3	0.1	2.0	40.3	59.7
1979	2.3	4.6	1.7	39.7	60.3
1980	0.0	-3.5	3.1	37.1	62.9
1981	1.5	1.8	1.7	37.0	63.0
Plan 1982	0.2 ^a	..	..	..	..
1982	-3.6*	-1.8*	-4.7*	37.7*	62.3*
Plan 1983	1.0 ^a	..	..	..	..
Plan 1981-1985	1.1	..	..	..	..
<i>Hungary</i>					
1976-1980	2.9	2.1	3.9	50.4	49.6
1979	-1.1	-3.2	1.2	49.4	50.6
1980	4.3	7.0	1.5	50.7	49.3
1981	1.0	-0.5	2.7	49.9	50.1
Plan 1982	4.0-4.5	..	..	..	..
1982	5.0	6.0	4.0	50.4*	49.6
Plan 1983	1.0-2.0	..	..	..	..
Plan 1981-1985	2.3-2.8	..	..	..	..
<i>Poland</i>					
1976-1980	0.5	-0.5	1.7	54.2	45.8
1979	-1.5	-3.7	1.3	53.2	46.8
1980	-10.7	-15.2	-5.6	52.9	47.1
1981	5.4	20.3	-9.9	56.0	44.0
Plan 1982	..	..	..	..	..
1982	-4.5	-3.3	-5.8	58.4	41.6
Plan 1983	1.5-2.4	5.1-6.9	..	..	..
Plan 1981-1985	..	..	..	..	..
<i>Romania</i>					
1976-1980	4.9	3.8	6.3	56.5	43.5
1979	5.5	6.1	4.7	56.0	44.0
1980	-4.1	-6.1	-2.2	55.1	44.9
1981	-0.9	0.6	-3.2	58.5	41.5
Plan 1982	6.8 ^a	..	..	..	..
1982	7.5	13.6*	0.0	59.0*	41.0*
Plan 1983	5.1-5.6	..	..	..	..
Plan 1981-1985	4.5-5.0	..	..	..	..
<i>Soviet Union</i>					
1976-1980	1.7	1.9	1.6	45.8	54.2
1979	-3.1	-6.2	-0.4	44.8	55.2
1980	-1.9	-2.3	-1.5	44.8	55.2
1981	-1.0	-1.0	0.0	43.9	56.1
Plan 1982	10.2 ^c	..	..	..	..
1982	4.0	9.0*	0.3	46.0*	54.0*
Plan 1983	10.5	..	..	..	..
Plan 1981-1985	2.5	..	..	..	..
<i>Byelorussian SSR</i>					
1976-1980	1.5	1.1	1.8	43.6	56.4
1979	-5.0	-8.5	-2.0	44.6	55.4
1980	-10.0	-21.4	-1.1	39.0	61.0
1981	10.0	29.9	-3.1	46.2	53.8
Plan 1982	9.3	..	..	..	..
1982	-5.7	-18.0	5.0	..	..
Plan 1983	12.0	..	..	..	..
Plan 1981-1985	2.1	..	..	..	..
<i>Ukrainian SSR</i>					
1976-1980	1.6	1.4	1.7	48.8	51.2
1979	-6.1	-9.6	-2.8	46.4	53.6
1980	-4.9	-8.8	-2.8	44.7	55.3
1981	1.7	2.0	1.9	..	..
Plan 1982	..	..	..	..	..
1982	5.3	..	..	..	..
Plan 1983	10.2	..	..	..	..
Plan 1981-1985	2.3	..	..	..	..

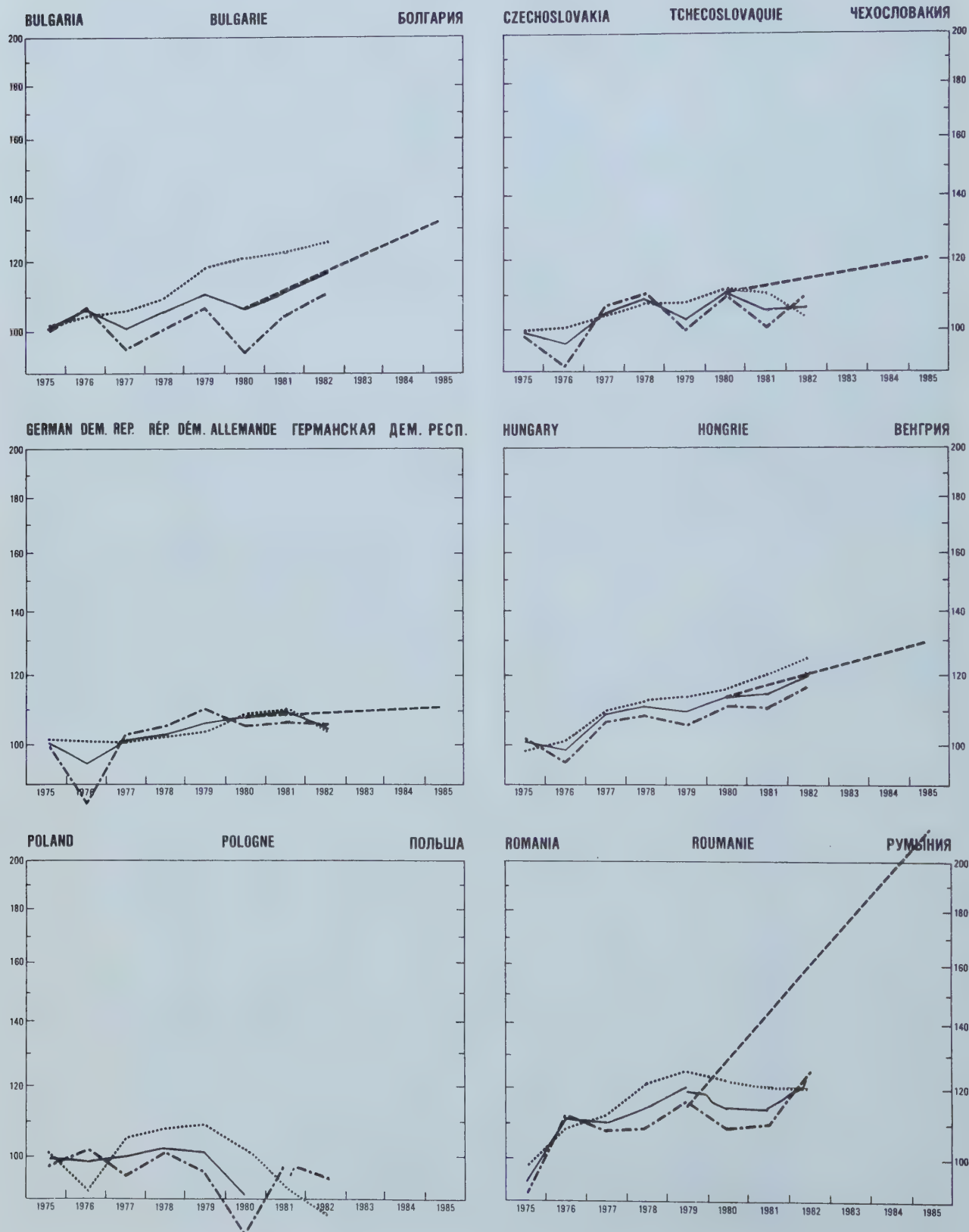
Sources: National statistics; CMEA statistical yearbooks; plans and plan-fulfilment reports.

^a Agriculture, forestry and food processing.^b Net output^c Over average annual output in 1976-1980.

CHART 3.2.1

Gross agricultural output: total production, crop and animal production

(Indices, 1973-1977=100)



The graph displays the percentage growth of four economic indicators for the USSR, URSS, and CCCP from 1975 to 1985. The Y-axis represents percentage growth from 0 to 100. The X-axis shows years from 1975 to 1985. The USSR and URSS lines are nearly identical, showing a peak around 1978 and a decline thereafter. The CCCP line shows a steady upward trend, reaching 100% by 1985.

Year	Gross output (USSR/URSS)	Gross output (Five-year plan) (USSR/URSS)	Crop production (USSR/URSS)	Animal production (USSR/URSS)	Gross output (CCCP)
1975	0	0	0	0	0
1976	15	15	15	15	15
1977	25	25	25	25	25
1978	35	35	35	35	35
1979	30	30	30	30	30
1980	25	25	25	25	25
1981	20	20	20	20	20
1982	25	25	25	25	25
1983	30	30	30	30	30
1984	35	35	35	35	35
1985	40	40	40	40	100

A remarkable feature of 1982 was the grain harvest in east European countries (table 3.2.2). *Bulgaria* produced

[illegible]

TABLE 3.2.2 (CONTINUED)

Country and period	Grains total		Wheat		Rye		Barley		Oats		Maize		Total grain output per capita in kg
	Output	Yield	Output	Yield	Output	Yield	Output	Yield	Output	Yield	Output	Yield	
Hungary													
1976-1980	12.76	41.6	5.19	40.6	0.14	16.5	0.77	32.5	0.09	23.7	6.37	48.5	1 196
1979	12.19	40.3	3.71	32.6	0.09	13.3	0.71	27.0	0.09	19.6	7.40	54.0	1 140
1980	14.17	47.3	6.08	47.6	0.14	19.0	0.93	37.7	0.11	30.3	6.67	53.2	1 322
1981	13.03	44.9	4.61	40.0	0.12	15.6	0.90	31.4	0.17	28.8	6.96	58.6	1 216
1982	14.80	52.9*	5.76	43.9	..	..	..	..	..	..	7.93	68.5	..
Plan 1981-1985	14.7-15.7 ^a	..	..	..	..	..	..	..	..	..	..	..	..
Poland													
1976-1980	19.72	24.5	5.09	29.3	6.47	21.6	3.56	27.6	2.43	22.8	0.16	40.0	564
1979	17.57	21.8	4.19	27.0	5.20	18.1	3.73	25.4	2.19	20.0	0.18	39.0	498
1980	18.54	23.1	4.18	26.0	6.57	21.6	3.42	25.9	2.25	22.5	0.06	35.4	521
1981	19.94	24.7	4.20	29.6	6.73	22.4	3.54	27.3	2.73	23.6	0.07	42.0	555
1982	21.20	26.1	4.50	30.7	7.80	23.8	3.60	29.5	2.60	24.0	0.07	42.0	582
Plan 1981-1985	..	..	..	..	..	..	..	..	..	..	..	..	..
Romania													
1976-1980	19.48	30.1	^b 6.15	^b 26.8	..	..	1.98	29.9	0.06	10.9	11.10	33.6	892
1979	19.42	30.0	4.72	22.0	..	..	2.04	26.4	0.06	10.0	12.43	37.2	881
1980	20.30	30.8	6.47	28.4	..	..	2.47	30.5	0.05	9.2	11.15	33.9	915
1981	20.08	29.8	5.35	25.0	..	..	2.57	28.0	0.07	10.5	11.89	35.1	898
1982	22.34	33.3*	6.51	29.7	..	..	3.00*	..	0.08	..	12.64	42.1	..
Plan 1981-1985	28.50 ^a	..	..	..	..	..	..	..	..	..	..	..	..
East European Countries													
1976-1980	79.25	31.5	27.89	34.0	8.96	22.8	14.95	32.7	3.60	23.6	21.01	38.4	732
1979	75.79	29.5	22.82	30.0	7.64	20.1	14.95	30.1	3.34	21.7	24.17	43.2	698
1980	81.27	32.5	29.05	36.2	9.22	23.1	14.74	33.6	3.46	24.4	20.89	39.4	743
1981	80.05	32.1	25.87	34.5	9.22	23.5	15.29	31.6	4.06	24.6	22.07	41.9	728
1982	88.33	35.1*	..	..	..	..	..	..	..	..	..	..	..
Plan 1981-1985	..	..	..	..	..	..	..	..	..	..	..	..	..
Soviet Union													
1976-1980	205.05	16.0	99.69	16.4	10.88	14.0	55.15	16.3	17.16	14.2	9.57	32.2	785
1979	179.28	14.2	90.30	15.6	8.12	12.5	47.96	13.0	15.17	12.4	8.37	31.3	681
1980	189.09	14.9	98.18	16.0	10.21	11.8	43.45	13.8	15.54	13.2	9.45	31.7	712
1981 ^c	160.0	12.7	80.00	14.9	8.50	11.3	39.00	12.9	14.00	12.0	8.00	22.6	598
1982 ^c	179.0	14.2	84.00	15.0	10.00	13.0	48.00	13.7	14.00	12.7	11.00	28.9	..
Plan 1981-1985	239.0	18.7	..	..	..	..	..	..	..	..	..	..	..
Byelorussian SSR													
1976-1980	6.18	21.3	0.33	25.1	1.99	21.6	2.90	23.3	0.72	20.0	..	..	651
1979	4.58	15.1	0.21	19.0	1.58	16.6	2.03	15.6	0.56	14.4	..	..	478
1980	5.01	16.0	0.24	19.9	1.85	17.2	2.05	16.9	0.59	15.1	..	..	519
1981	5.81	19.3	0.54	22.1	2.11	20.5	2.23	21.0	0.73	17.8	..	..	..
1982	5.91*	19.7	..	..	..	..	..	..	..	..	..	..	..
Plan 1981-1985	..	..	..	..	..	..	..	..	..	..	..	..	..
Ukrainian SSR													
1976-1980	43.15	26.1	21.97	30.1	1.28	17.7	10.64	24.6	1.49	19.5	4.35	29.0	869
1979	33.96	21.1	17.26	25.8	1.10	16.7	8.57	18.5	1.03	13.5	3.95	27.8	681
1980	38.10	23.1	21.33	26.6	1.14	14.2	7.24	20.8	1.18	16.7	4.07	27.2	762
1981	..	..	..	..	..	..	..	..	..	..	..	..	..
1982	41.90*	..	..	..	..	..	..	..	..	..	..	..	..
Plan 1981-1985	..	..	..	..	..	..	..	..	..	..	..	..	..
East European countries and Soviet Union													
1976-1980	284.29	18.5	127.58	18.5	19.84	17.0	70.10	18.2	20.76	15.3	30.58	36.2	770
1979	253.08	16.7	113.12	17.3	15.76	15.3	62.90	15.0	18.51	13.4	32.55	39.4	686
1980	270.36	17.8	127.23	18.3	19.43	15.4	58.19	16.4	19.00	14.4	30.34	36.6	721
1981	240.05*	15.9*	105.87	..	17.72	..	54.29	..	18.06	..	30.07	..	..
1982	254.79*	16.9*	..	..	..	..	64.31	..	..	..	33.38*	..	..
Plan 1981-1985	..	..	..	..	..	..	..	..	..	..	..	..	..

Source: As for table 3.2.1.

^a Estimation of the Secretariat; calculated on the basis of national plan data for grain output in 1985.^b Including rye.^c Estimation of the FAO; monthly bulletin of statistics, 5 October 1982; *Food Outlook*, 30 November 1982.

10 million tonnes of grain for the first time in its history (equivalent to more than 1,000 kg per head of the population). *Czechoslovakia* increased grain output by about 700 thousand tonnes compared with 1981 – to more than 10.2 million tonnes. The *German Democratic Republic* also attained a record of 10 million tonnes of grain, and yields rose above the plan target for 1985. *Hungary* grew 14.8 million tonnes of grain. This was considerably higher than the average during the preceding five-year plan, and already up to the lower limit of the target range for 1985. A bumper crop of rice was also brought in. In *Poland*, the favourable tendency in the development of grain output and yields since 1980 continued. The 21.2 million tonnes grain crop was 7.5 per cent higher than the average during 1976–1980. In *Romania*, the stagnating tendency of the last three years was reversed. A record 22.34 million tonnes of grain was harvested, equal to about 1,000 kg per capita. The east European countries together produced around 88 million tonnes of grain, some 11.5 per cent above the annual average output in the previous five-year plan period.

The good results in grain output obviously reflect several combined factors and conditions. More extensive use of higher yielding crop varieties, more timely sowing and harvesting, and an increased degree of mechanization all contributed. But weather conditions played the decisive role. Warm dry weather before and during the harvest season favoured high yields, reduced harvest losses, and facilitated storage.

The structure of grain output in east European countries in 1982 followed the trend of recent years (table 3.2.3). In *Bulgaria*, *Hungary* and *Romania*, wheat and

maize predominated, with the importance of maize slightly increasing. In *Czechoslovakia*, wheat and barley are the most important cereals. The output structure is similar in the *German Democratic Republic*, which however produces a higher share of rye. In *Poland*, rye is the biggest grain crop, followed by wheat and barley. The latter is also gaining ground in *Hungary* and *Romania*. The Soviet Union published no data on grain production in 1981 and 1982. According to estimates of the Food and Agriculture Organization of the United Nations (FAO), Soviet grain production may have recovered slightly from the low output levels presumed for 1981. The FAO estimates that production in 1982, in spite of unfavourable weather conditions in the fourth consecutive year, may have reached about the level of 1979 (179 million tonnes).²²⁷ The last recorded figure for total Soviet grain output was 189 million tonnes in 1980. Whereas for most types of grain the average level of 1976–1980 has not yet been achieved, maize output probably exceeded the annual average of the previous five-year period by about 15 per cent.

With regard to developments in the non-grain crops in 1982 (table 3.2.4), the east European countries and the Soviet Union can be divided into two groups: to the first belong the countries where weather conditions favoured both grain and other crops (*Bulgaria*, *Hungary* and *Romania*); in the second are countries where the long period of dry weather hindered production of non-grain crops. A cold spring and unusual and persistent drought in the main growing season of potatoes, sugar-beet and root fodder crops limited output to below their 1981 levels in the *German Democratic Republic*, *Poland* and the European part of the Soviet Union. It retarded growth and reduced the quality of crops.

Bulgaria considerably increased output of potatoes in 1982 – by 15.4 per cent compared to 1981 and by 25.7 per cent above the average of 1976–1980. Sugar-beet output was also significantly better than in 1981 but still behind the average annual performance of the previous five-year plan period. Output of oil-seeds rose 21.7 per cent above the 1976–1980 level – a record result. In *Czechoslovakia*, output of non-grain crops was influenced by low rainfall, which adversely affected root crops, green maize and fresh fodder plants. Good results were reported for sugar-beet output (around 7.6 million tons, or 9.4 per cent above the average amount in 1976–1980 – equal to the record result in 1979). The output of many crops in the *German Democratic Republic* was heavily affected by persistent drought. In most areas of the *German Democratic Republic*, rainfall in 1982 was below one-third of the long-term average. There was no rain in many regions in a 15-week period during the main growing season of root and fodder crops and, in particular, pasture-land was affected. Yields were generally below the average level of 1976–1980 (table 3.2.5) thus illustrating the scale of weather dependence of some crops. For potatoes, vegetables, sugar-beet and oil-seeds, yields were lower than in 1981. However, low sugar-beet output did not affect the planned white sugar production, because of the high (16 per cent) sugar content.

For *Hungary*, 1982 was a very good agricultural year. The output of most crops increased. An exceptional sugar-beet harvest was gathered (35.2 per cent over the 1976–1980 annual average) and the same was true of oil-seeds. Output was about 85 per cent and yields about 33 per cent higher than in 1976–1980. However, vegetable output stagnated and potato production declined. *Poland* faced problems similar to those of the *German Democratic Republic* (table 3.2.6). As a result of the

TABLE 3.2.3

Structure of grain output
(Percentage shares)^a

	Wheat	Rye	Barley	Oats	Maize
<i>Bulgaria</i>					
1976–1980 . . .	44.0	0.3	19.2	0.9	33.2
1980	50.0	0.4	17.9	0.6	29.4
1981	52.1	0.4	16.5	0.7	28.1 ^b
<i>Czechoslovakia</i>					
1976–1980 . . .	48.5	5.7	33.2	4.1	7.1
1980	49.6	5.2	33.0	3.9	6.9
1981	45.4	5.7	35.6	4.5	7.5
<i>German Dem. Rep.</i>					
1976–1980 . . .	32.9	19.2	40.8	5.8	—
1980	32.0	19.8	41.0	6.0	—
1981	32.9	20.1	38.9	6.7	—
<i>Hungary</i>					
1976–1980 . . .	40.7	1.1	6.0	0.7	49.9
1980	42.9	1.0	6.6	0.8	47.1
1981	35.4	0.9	6.9	1.3	53.4 ^c
<i>Poland</i>					
1976–1980 . . .	25.8	32.8	18.1	12.3	0.8
1980	22.5	35.4	18.4	12.1	0.3
1981	21.1	33.8	17.8	13.7	0.4
<i>Romania</i>					
^d					
1976–1980 . . .	31.6	—	10.2	0.3	57.0
1980	31.9	—	12.2	0.2	54.9
1981	26.6	—	12.8	0.3	59.2
<i>Soviet Union</i>					
1976–1980 . . .	48.6	5.3	26.9	8.4	4.7
1980	51.9	5.4	23.0	8.2	5.0
1981	50.0	5.3	24.4	8.8	5.0

Sources: As for table 3.2.2.

^a Due to the omission of minor grains, the above percentage shares do not add to 100.^b 1982: 34 per cent.^c 1982: 53.6 per cent^d Including rye.²²⁷ See table 3.2.2, footnote c.

TABLE 3.2.4
Production and yields of non-grain crops
(Output in thousand tons; yields in quintals per hectare)

Country and period	Potatoes		Sugar-beet		Oilseeds		Raw cotton		Vegetables Output	Fruit Yield
	Output	Yield	Output	Yield	Output	Yield	Output	Yield		
<i>Bulgaria</i>										
1976-1980	370	105	1 827	290	511	15.8	12.3	6.8	1 741	1 963
1979	424	108	2 045	337	587	17.8	17.5	10.9	1 773	1 860
1980	301	85	1 414	267	493	14.2	11.7	9.5	1 639	1 919
1981	403	110	1 136	215	569	15.7	12.7	10.0	1 721	2 215
1982	466	114	1 589	274	507	..	..	..	1 622	..
<i>Czechoslovakia</i>										
1976-1980	3 678	165	7 104	328	180	17.2	—	—	1 015	659
1979	3 725	172	7 613	349	120	12.1	—	—	1 049	593
1980	2 695	136	7 230	332	252	19.2	—	—	974	772
1981	3 743	192	6 942	317	242	18.6	—	—	1 027	443
1982	3 503	176	8 210	384	..	..	—	—	1 125	..
<i>German Democratic Republic</i>										
1976-1980	9 873	175	6 510	267	301	22.8	—	—	1 555	686
1979	12 243	223	6 502	263	215	17.3	—	—	1 659	1 063
1980	9 215	180	6 856	281	318	23.6	—	—	1 472	790
1981	10 378	206	7 207	308	293	21.7	—	—	1 682	650
1982	8 820	175	7 100	276	..	..	—	—	..	..
<i>Hungary</i>										
1976-1980	1 567	142	3 979	336	447	14.8	—	—	1 794	2 347
1979	1 512	144	3 928	349	517	16.3	—	—	1 752	2 253
1980	1 392	150	3 941	376	620	16.7	—	—	1 793	2 551
1981	1 608	182	4 719	388	772	18.7	—	—	1 591	2 419
1982	1 415	..	5 380	425*	826	19.8*	—	—	1 600*	..
<i>Poland</i>										
1976-1980	42 742	177	14 149	280	655	19.0	—	—	4 183	1 717
1979	49 572	203	14 154	311	257	12.5	—	—	4 720	1 791
1980	26 391	113	10 139	221	583	17.3	—	—	3 847	1 563
1981	42 562	189	15 867	338	505	17.5	—	—	5 087	1 837
1982	32 000	147	15 100	306	444	16.4	—	—	4 204	..
<i>Romania</i>										
1976-1980	4 432	147	6 135	248	1 190	13.7	0.6	2.6	3 523	2 893
1979	4 562	151	6 109	236	1 339	14.3	1.2	6.3	3 529	3 293
1980	4 135	141	5 562	234	1 336	13.5	0.2	2.0	3 589	2 731
1981	4 447	145	5 441	193	1 139	12.1	0.4	3.7	4 037	3 106
1982	4 533	167	6 647	247	..	..	..	..	4 618	..
<i>East European countries</i>										
1976-1980	62 662	172	39 704	285	3 284	15.8	12.9	6.3	13 811	10 265
1979	72 308	198	40 351	298	3 035	15.1	18.7	10.4	14 482	10 853
1980	44 129	127	35 142	267	3 602	13.4	11.9	9.0	13 314	10 326
1981	63 141	186	41 312	299	3 520	15.5	13.1	9.5	15 145	10 660
1982	50 737	..	44 026	..	..	..	..	..	..	..
<i>Soviet Union</i>										
1976-1980	82 571	117	88 446	237	6 044	10.2	8 932	29.3	26 326	15 170
1979	90 956	130	76 212	204	6 077	10.4	9 161	29.6	27 215	16 303
1980	67 023	96	80 987	218	5 327	9.1	9 962	31.7	27 291	14 673
1981	72 087	105	60 843	168	5 320	9.4	9 636	30.4	27 138	17 256
1982	78 000	..	71 000	..	5 300	..	9 300	..	..	18 000
<i>Byelorussian SSR</i>										
1976-1980	12 920	159	1 249	246	..	..	..	..	752	480
1979	15 253	191	1 383	270	..	..	..	..	797	422
1980	9 332	119	1 122	229	..	..	..	..	733	414
1981	13 419	173	1 403	270	..	..	..	..	838	676
1982	8 748	115	1 092	207	..	..	..	..	835	570
<i>Ukrainian SSR</i>										
1976-1980	20 542	120	53 891	300	2 422	14.3	..	..	7 579	3 878
1979	23 128	135	47 085	263	2 639	16.0	..	..	7 216	4 840
1980	13 133	77	48 841	274	2 257	13.4	..	..	7 186	3 139
1981	19 013	115	36 474	211	2 312	14.2	..	..	6 131	3 900
1982	20 000	..	42 300	300	2 500	..	..	..	7 200	4 600
<i>East European countries and Soviet Union</i>										
1976-1980	145 233	136	128 150	250	9 328	11.7	8 945	29.1	40 137	25 435
1979	162 994	131	116 563	230	9 112	..	9 180	..	41 697	27 156
1980	111 152	106	114 701	231	8 929	10.2	9 974	31.6	40 687	24 970
1981	135 288	132	102 155	204	8 840	11.1	9 649	30.3	42 283	27 916
1982	128 737	..	115 026	..	..	..	..	..	..	..

Source: As for table 3.2.1.

* Sunflower.

TABLE 3.2.5

Yields of non-grain crops in the German Democratic Republic
(In quintals per hectare)

	Annual average 1976-1980	1981	1982
Potatoes	175	206	175
Sugar-beet	269	308	276
Fodder root crops	499	575	473
Green and silo-maize	293	368	278
Field fodder plants	355	404	337
Pasture-land	264	284	262
Meadows	291	312	282

Source: National statistical report 1982 on plan-fulfilment, *Neues Deutschland*, 15-16 January 1983.

TABLE 3.2.6

Changes in output and yield of non-grain crops in Poland
(Indices, 1976-1980 annual average = 100)

		1980	1981	1982
Potato	Output	61.7	99.6	74.8
	Yield	63.8	106.8	83.1
Sugar-beet	Output	71.1	112.1	106.5
	Yield	78.7	120.7	109.3
Oil-seeds	Output	89.0	77.1	67.8
	Yield	91.1	92.1	86.3
Hay	Output	106.0	126.7	90.0
	Yield	87.1	103.5	90.4

Source: National report on economic development in 1982.

prolonged drought, potato output dropped by around 25 per cent in 1982. The hay crop was one-tenth, and fodder crops even one-fifth, down on 1981. The sugar-beet harvest decreased by about 5 per cent from 1981 but was still considerably higher (6.5 per cent) than the annual average in 1976-1980 and contained a high sugar content. As most other countries, Poland recorded an extremely good apple harvest.

The output of non-grain crops in *Romania* developed successfully in 1982, contributing to an (estimated) increase of 13.6 per cent in crop production. More than 4.5 million tonnes of potatoes and over 4.6 million tonnes of vegetables were harvested, the latter exceeding the 1976-1980 annual average output by more than 30 per cent. Production of sugar-beet, fruits, wine and sunflower was also good, and in part, even excellent. In the *Soviet Union* the downward trend of output of many crop products was reversed in 1982, despite difficult weather conditions for the fourth consecutive year. Although there was a severe drought in the European part of the Soviet Union and an acute shortage of water in Central Asia, production of potatoes, vegetables, sugar-beet, forage crops and fruits increased and yields rose in comparison to the previous year. The (estimated) potato and sugar-beet harvests were respectively 8 and 16.6 per cent higher than in 1981. Raw cotton output decreased by 3.5 per cent compared to 1981 but still remained at a high absolute level (average output over the last three years was 7.8 per cent higher than the annual average for 1976-1980).

3.2(iii) Fodder supplies

Domestic output of animal feed plays a decisive role in all countries, influencing not only livestock development

and meat production but also foreign trade patterns (table 3.2.8).

Data on fodder output in 1982 are still incomplete. Total domestic fodder output (in fodder units) in 1980 in the east European countries and the Soviet Union was lower than the annual average for 1976-1980 (table 3.2.7). The situation improved in 1981 in eastern Europe but deteriorated in the Soviet Union.

These developments in fodder output did not ease the tightness of supply in most countries. Czechoslovakia, the German Democratic Republic, Poland and the Soviet Union were confronted with the alternative of increasing imports of grain and other feed or restricting animal production in line with domestic fodder availabilities – usually products with a lower energy and protein content. The option chosen in most cases was a mixture of the two possibilities: lower fodder imports and maximum use of available domestic fodder resources. Nevertheless, grain imports – mostly for feed purposes – continued at reduced but still high levels in Poland. They increased sharply in the Soviet Union as a result of the poor harvest in 1981.

Thus while the Soviet Union increased grain imports by 25 per cent in 1981, Czechoslovakia decreased its grain purchases by 51.5 per cent and the German Democratic Republic by 36.4 per cent compared with 1980 (table 3.2.9). Hungary, and to a lesser extent Bulgaria, have been in a more favourable situation and – at least in the former case – were able to simultaneously increase the use of domestically produced feed grain and boost exports in 1981. This is also true for 1982 following the record grain harvests. Romania could at some stage join this group, but the other countries of the region will be obliged to continue importing fodder, even if grain output can be developed to offset in part limited domestic production possibilities for high nutrient fodder. Data on 1982 grain imports are not yet available but, taking into account grain output in 1981, it is likely that similar policies were followed as in that year. The German Democratic Republic reported that, as in 1981, grain and foodstuffs to a value of 1.8 billion valuta marks were imported in 1982.²²⁸

TABLE 3.2.7

Changes in domestic fodder output (in feed units)^a
(Indices: 1976-1980 annual average = 100)

	1980	1981
Bulgaria	89.9	95.7
Czechoslovakia	102.4	103.5
German Democratic Republic	105.8	110.5
Hungary	107.1	110.0
Poland	84.7	103.4
Romania	100.3	106.6
Eastern Europe	95.8	105.2
Soviet Union	96.4	89.3
Eastern Europe and the Soviet Union	96.2	93.9

Sources: As for table 3.2.1.

^a Basic domestic fodder production includes: feed grains and pulses (nutrient coefficient weighting = 1.0); potatoes and feed roots (nutrient coefficient weighting = 0.2) and roughage (nutrient coefficient = 0.4). Roughage includes only hay from cultivated grassland (annual and perennial), together with silage maize and green fodder. Estimates by the ECE secretariat indicate that these items account for 68-72 per cent of total domestic fodder consumption (in standard oat-based feed units) in eastern Europe and the Soviet Union together – the rest (28-32 per cent) being accounted for by grazing, domestic waste, micro-biological industry feed activities, and of course imported grains, oilseeds and other feed items.

²²⁸ E. Honecker, General Secretary of the Socialist Unity Party of Germany, in his closing statement at the Fifth Session of the Central Committee; 5. Tagung des Zentralkomitees der SED, 25/26.II.1982; Dietz Verlag, Berlin, 1982, p.18.

TABLE 3.2.8

Basic fodder crop output
(Annual average in thousand tons)

Country and period	Coarse grain and pulses	Fodder root crops	Green and silage maize	Hay from:		
				Annual grasses	Perennial grasses	Meadows
Bulgaria						
1976-1980	4 316	690	4 866	24.1	2 028	659
1979	4 884	747	5 759	24.5	2 135	628
1980	3 724	479	4 498	34.3	2 046	698
1981	3 935	431	5 053	24.9	2 501	622
Czechoslovakia						
1976-1980	4 667	870	14 930	890	5 239	2 938
1979	5 075	812	17 118	1 313	4 947	2 975
1980	4 900	715	14 647	1 147	6 022	3 099
1981	4 662	795	15 642	1 089	5 546	3 100
German Democratic Republic						
1976-1980	4 320	2 401	10 951	749	4 060	4 073
1979	3 956	2 019	13 496	912	4 243	4 291
1980	4 636	1 714	11 434	937	5 176	4 068
1981	4 156	2 721	13 434	1 073	5 223	4 164
Hungary						
1976-1980	7 365	692	6 104	256	2 647	1 924
1979	8 284	689	6 222	246	2 705	1 913
1980	7 870	661	6 613	266	2 862	2 171
1981	8 211	645	7 287	262	2 326	2 025
Poland						
1976-1980	6 382	9 055	21 512	971	7 323	14 328
1979	6 327	10 673	25 680	977	7 357	14 721
1980	5 927	8 044	18 000	1 109	6 980	12 381
1981	6 551	11 722	20 836	1 314	8 254	14 749
Romania						
1976-1980	13 228	3 605	4 348	1 884	3 752	2 895
1979	14 615	3 358	4 818	1 781	3 771	2 841
1980	13 770	2 986	3 688	1 974	3 338	3 194
1981	14 661	3 276	4 403	2 274	3 007	2 988
Soviet Union						
1976-1980	88 798	44 193	254 123	34 848	57 921	47 348
1979	75 846	38 435	229 852	31 538	54 837	48 033
1980	74 810	41 561	266 168	35 154	63 553	49 270
1981	..	36 558	232 085	29 727	66 149	53 146

Source: CMEA statistical yearbooks.

TABLE 3.2.9

Net imports of grain of east European countries and the Soviet Union
(In thousand tonnes)

	Grain total			of which: Maize		
	1979	1980	1981	1979	1980	1981
Bulgaria	499	29	626	218	556	887 ^a
Czechoslovakia	2 174	2 033	987	1 206	1 178	660
German Dem. Rep.	3 378	4 025	2 558	1 201	3 161	1 823
Hungary ^b	- 329	- 748	- 1 288	- 88	- 53	- 114
Poland	7 277	7 724	7 218	2 128	2 553	2 465
Romania	1 451	525	1 385	642	286*	520*
Soviet Union	22 963	28 940	41 085	14 332*	9 888*	14 467*
Total	37 413	42 078	52 571	19 639*	17 569*	20 708*

Source: FAO Trade Yearbook, 1981, Vol.35, Rome, 1982.

* Maize imports are higher than total grain imports as Bulgaria is a net exporter of other grain.

^b Net exports.

3.2(iv) Livestock output

The size of herds expressed in conventional livestock units, in most countries of the region increased slightly in 1981 as compared with the average annual level of 1976–1980 (table 3.2.10). Structural developments were characterized by two different features. In countries where grain output accounted for a high share of crop production (Bulgaria, Hungary, Romania) the number of pigs increased, while cattle numbers stagnated or slightly decreased. Other countries, like Czechoslovakia and the German Democratic Republic, decreased the number of pigs due to insufficient domestic grain output and limited feed import possibilities. Cattle herds were maintained using domestic fodder. The changes in the shares of raw fodder, green and silo maize in total feed supplies were accompanied by longer grazing periods. These changes did not occur without difficulties and, in part, lower yields.

In most countries the size of herds of various types of animals in 1982 was similar to, or slightly above, the annual average for 1976–1980 (table 3.2.11). In Poland, increases above the low levels of 1980 took place but herds are still generally smaller than the average during the preceding five-year plan period. No improvements in this respect can be expected in 1983.²²⁹

The continuous growth of herds of sheep and goats is a notable feature in all countries during recent years. It reflects efforts towards the full utilization of fodder reserves for meat production. Poland has already restored herds of these animals to the level of the previous five-year plan period (1976–1980).

Output levels of the most important *livestock products* in 1979–1981 were higher than the annual average in the preceding five-year plan period, in all countries except Poland (table 3.2.11). *Meat output* rose continuously in

²²⁹ *Trybuna Ludu*, No.285, 2 December 1982.

TABLE 3.2.10
Livestock herds
(Indices: annual average 1976–1980 = 100)

	Cattle	Cows	Pigs	Sheep and goats	Conventional units ^a
Bulgaria					
1980	101.4	99.2	104.2	103.2	102.4
1981	101.9	99.5	105.2	106.2	103.0
1982	98.1	96.4	104.3	107.6	..
Czechoslovakia					
1980	103.3	100.0	114.7	103.8	106.2
1981	105.4	100.2	106.1	108.5	104.5
1982	106.0	99.8	103.5	..	..
German Dem.Rep.					
1980	102.5	99.8	107.6	103.8	104.4
1981	103.0	99.1	107.6	110.4	105.3
1982	101.7	99.0	99.8	111.8	..
Hungary					
1980	98.9	98.5	102.5	111.6	101.1
1981	100.6	97.7	102.9	113.4	102.5
1982	99.4	..	115.9	115.6	..
Poland					
1980	94.7	97.4	95.4	99.3	95.9
1981	95.1	98.0	97.2	99.9	94.1
1982	91.3	97.9	89.6	..	..
Romania					
1980	100.8	101.4	109.5	103.8	103.8
1981	98.0	98.4	118.2	113.7	108.4
Soviet Union					
1980	101.4	101.1	103.6	100.1	102.6
1981	102.2	101.8	103.4	100.7	103.6

Source: As for table 3.2.1.

^a See footnote ^a to table 3.2.11.

TABLE 3.2.11
Livestock and livestock output^a

Country and period	Livestock (thousand head)					Livestock output (thousand tons)				
	Cattle	of which: Cows	Pigs	Sheep and goats	Total conventional units ^a	Meat total	of which: Poultry	Milk total	Eggs (millions)	Wool
Bulgaria										
1976–1980	1 817	729	3 653	10 562	4 472	746	153	2 033	2 136	34
1979	1 839	736	3 830	10 969	4 584	782	162	2 205	2 253	35
1980	1 843	723	3 808	10 900	4 579	781	145	2 217	2 405	35
1981	1 851	725	3 844	11 216	4 607	786	147	2 296	2 396	35
1982	1 783	703	3 809	11 362*	..	823*	151	2 339	2 506	35

TABLE 3.2.11 (CONTINUED)

Country and period	Livestock (thousand head)					Livestock output (thousand tons)				
	Cattle	of which: Cows	Pigs	Sheep and goats	Total conven- tional units ^b	Meat total	of which: Poultry	Milk total	Eggs (millions)	Wool
<i>Czechoslovakia</i>										
1976-1980	4 841	1 902	6 883	932	6 799	1 454	159	5 696	4 691	4
1979	4 915	1 903	7 588	938	7 095	1 467	169	5 723	4 732	4
1980	5 002	1 902	7 894	967	7 218	1 499	172	5 966	4 900	4
1981	5 103	1 905	7 302	1 011	7 108	1 527	170	5 973	4 968	4
1982	5 131	1 899	7 126	..	..	..	..	5 980*	5 030	..
<i>German Democratic Republic</i>										
1976-1980	5 582	2 142	11 957	1 986	9 059	1 821	137	7 289	5 287	11
1979	5 596	2 125	12 132	2 004	9 142	1 824	140	7 193	5 219	11
1980	5 723	2 138	12 871	2 062	9 458	1 899	145	7 243	5 514	12
1981	5 749	2 122	12 869	2 192	9 542	1 997	149	7 195	5 670	12
1982	5 690	2 124	12 107	2 220*	..	1 840*	141*	6 735*	5 700*	12*
<i>Hungary</i>										
1976-1980	1 933	777	8 067	2 782	5 599	1 467	325	2 290	4 475	11
1979	1 950	780	8 355	2 938	5 695	1 522	331	2 465	4 721	11
1980	1 911	765	8 265	3 105	5 662	1 566	355	2 557	4 385	12
1981	1 945	759	8 300	3 155	5 739	1 577	365	2 693	4 394	14
1982	1 922	..	9 350	3 215	..	..	..	..	..	..
<i>Poland</i>										
1976-1980	12 054	5 820	19 635	3 513	19 453	3 064	374	16 814	8 523	12
1979	12 164	5 840	20 983	3 633	19 732	3 257	419	16 965	8 670	14
1980	11 337	5 666	18 734	3 490	18 662	3 141	441	16 499	8 902	13
1981	11 467	5 706	19 081	3 510	18 299	2 526	455	15 342	8 816	11
1982	11 000	5 700	17 600	..	..	..	..	..	7 600	12
<i>Romania</i>										
1976-1980	6 433	2 634	10 543	15 615	12 096	1 623	363	5 422	6 193	35
1979	6 513	2 682	10 899	16 195	12 345	1 760	411	5 659	6 766	37
1980	6 485	2 670	11 542	16 212	12 554	1 769	406	5 480	6 442	37
1981	6 303	2 592	12 464	17 748	13 111	1 786	422	5 049	6 667	36
<i>Eastern Europe</i>										
1976-1980	32 660	14 004	60 738	35 390	57 778	10 175	1 511	39 544	31 305	107
1979	32 977	14 066	63 787	36 677	58 593	10 612	1 632	40 210	32 361	113
1980	32 301	13 864	63 114	36 736	59 132	10 655	1 664	40 016	32 548	113
1981	32 418	13 809	63 860	38 832	58 403	10 207	1 708	38 548	32 911	112
<i>Soviet Union</i>										
1976-1980	113 456	42 899	70 866	147 400	145 538	14 826	1 828	92 700	63 100	460
1979	115 100	43 310	73 898	149 423	148 895	15 341	2 034	93 130	64 750	475
1980	115 057	43 389	73 382	147 487	149 297	15 073	2 139	90 900	66 882	440
1981	115 919	43 664	73 302	148 481	150 846	15 239	2 248	88 513	69 800	452
1982	..	..	..	..	..	15 240	..	90 100	72 100	450
<i>Byelorussian SSR</i>										
1976-1980	6 695	2 733	4 456	566	..	884	71	6 270	2 824	1.1
1979	6 735	2 748	4 437	564	..	925	78	6 252	2 938	1.1
1980	6 768	2 738	4 567	569	..	857	87	6 105	3 035	1.1
1981	6 883	2 745	4 708	577	..	831	99	5 775	3 119	1.1
1982	7 064	2 752	4 987	617	..	869	..	6 075	3 218	1.1
<i>Ukrainian SSR</i>										
1976-1980	25 084	9 187	19 723	9 104	..	3 471	465	21 769	13 542	28
1979	25 552	9 289	20 149	9 185	..	3 638	503	21 628	14 135	28
1980	25 368	9 271	19 783	9 051	..	3 500	507	21 112	14 606	27
1981	25 403	9 268	19 931	8 964	..	3 508	..	20 726	15 199	27
1982	25 500	9 200	20 800	8 900	..	3 400	..	20 300	15 500	27
<i>Soviet Union and Eastern Europe</i>										
1976-1980	146 116	56 856	131 628	182 790	203 012	25 001	3 335	132 152	93 492	564
1979	148 077	57 376	137 685	186 100	207 488	26 093	3 649	133 555	96 900	582
1980	147 358	57 253	136 496	184 223	207 428	25 773	3 803	130 915	99 430	571
1981	148 337	57 473	137 162	187 313	209 249	25 446	3 956	127 061	102 711	564

Sources: As for table 3.2.1.

Note: Livestock numbers based on the end-year census. Meat is in carcass weight. Eggs include only hen's eggs. Wool is raw wool on a greasy basis.

^a Annual averages over five-year periods.^b In terms of cows. Conversion ratios: cattle (other than cows) 0.6; pigs 0.3; total sheep and goats 0.1; horses 1.0; poultry 0.02. Source: *Spravochnik po planirovaniu sel'skogo khoziaistva* (Moscow "Kolos" 1974), p.151.^c Goats excluded.

most countries between 1979 and 1981, but fell considerably in Poland and showed significant fluctuations in the Soviet Union. Information on performance in 1982 is

incomplete. Bulgaria increased its meat output. In Czechoslovakia, output seems to have hardly changed. The German Democratic Republic registered a break in

the medium-term trend. The plan for deliveries of finished animals to slaughter was fulfilled by 94 per cent in 1982. Nevertheless this performance is still in line with the target provisions for the current five-year plan which were overfulfilled for this indicator by 3.5 per cent in 1981. Hungary considerably increased its meat output on the basis of rapid development of pigs. Owing to the unfavourable feed situation, animal husbandry production declined in Poland in 1982 by around 6 per cent. Romania did not publish data on livestock output, but official statements claim that deficiencies concerning slaughter weight and animal production led to unsatisfactory results.²³⁰ Meat production in the Soviet Union – in both 1981 and 1982 – was 2.8 per cent above the annual average of 1976–1980, but was still below the 1979 level.

The level of *poultry meat* output increased but its share remained virtually unchanged in Bulgaria, Czechoslovakia and the German Democratic Republic between 1979 and 1981, equal to or slightly above the level of 1976–1980. The share has tended to increase in Hungary, Poland and Romania, as well as in the Soviet Union (table 3.2.12). Stagnation or decrease in *poultry meat output* can be assumed in 1982 in Czechoslovakia and the German Democratic Republic because of its highly grain-dependent character when carried out in intensive industrial-type units. In Poland, the limited supply of feed resulted in the virtual disappearance of poultry production on large farms. State procurement of poultry in 1982 declined by nearly 70 per cent compared with 1981.

TABLE 3.2.12

Share of poultry meat in total meat production
(Percentages)

	1976–1980	1980	1981
Bulgaria	20.5	18.6	18.5
Czechoslovakia	10.9	11.5	11.1
German Democratic Republic	7.5	7.6	7.5
Hungary	22.2	22.7	23.1
Poland	12.2	14.0	18.0
Romania	22.4	23.0	23.6
Soviet Union	12.3	14.2	14.8

Sources: As for table 3.2.1.

TABLE 3.2.13

Milk yields per cow
(Indices, 1976–1980 = 100)

	1979	1980	1981
Bulgaria	106.4	109.4	113.1
Czechoslovakia	100.7	105.3	105.4
German Democratic Republic	99.3	100.6	99.3
Hungary	107.5	113.6	121.0
Poland	100.7	99.8	95.2
Romania	102.8	99.6	93.1
Soviet Union	99.5	96.9	94.5

Sources: As for table 3.2.1.

Milk output in Bulgaria and Hungary was more than 15 per cent above the level of 1976–1980 in the last two years (table 3.2.11). Czechoslovakia also increased its milk output considerably in 1980 and 1981, but a decrease in 1982 seems likely. In the German Democratic Republic, performance fell in 1981 compared to the high average level in 1976–1980 due to lower yields (table 3.2.13).

²³⁰ Report on the National Conference of the Romanian Communist Party, *Scinteia*, 17 December 1982.

Below-plan performance of 93.5 per cent signified a further decrease in 1982. Polish milk output fell sharply in 1981 and it was reported to have stagnated in 1982. In Romania and the Soviet Union, yields per cow during recent years dropped considerably; total milk output has not recovered to the average levels of the preceding five-year plan period.

Output of *eggs* increased continuously in most countries (table 3.2.11). In Bulgaria and the Soviet Union, the level of the previous five-year period was exceeded by 17.3 and 10.6 per cent respectively in 1981. The increase of the east European countries together during this period was 5.1 per cent and, including the Soviet Union, 9.9 per cent. In Poland, egg production decreased in 1981 by 1 per cent but was still 3.4 per cent higher than the annual average of 1976–1980. In 1982 it probably fell below this level. Hungary regained the output level of the previous five-year plan period only in 1979. Output dropped in 1980 and stagnated since then. Noteworthy transitions to a higher level of egg output were achieved in the Byelorussian and Ukrainian SSRs – some 15 per cent above the average 1976–1980 level by 1982. Virtually no changes took place in *wool production* in any country of the region in recent years.

3.2(v) Trends in inputs and efficiency

(a) Employment

The regular trend of decreasing agricultural employment observed during the previous five-year plan period has been arrested in some countries during several recent years (table 3.2.14 and chart 3.2.2). Exceptions are Romania and the Soviet Union. Precise data for 1982 are not yet available, but the slight increase in the agricultural labour force in Czechoslovakia in 1981, and since a number of years in the German Democratic Republic and Hungary, implies stabilization of the present farm labour force in absolute terms and per hectare of land over the current five-year period. This development does not, however, rule out decreases in the share of agricultural employment in these countries. The existing age structure may limit the growth of the active population, and any increment will probably be needed for developing further the non-material sphere of the countries. The stabilization of the agricultural labour force has been accompanied by a rise in the level of qualifications. This, in part, reflects the growing number of young people in agricultural employment in some countries, including Czechoslovakia and the German Democratic Republic. In Romania and the Soviet Union, the decreasing trend of agricultural employment is continuing. This is so particularly in Romania where the share of the total labour force in agriculture remains high. This indicates the existence of labour productivity reserves in agriculture itself, and, through shifts to sectors where productivity is higher, in the economy as a whole. Agriculture also accounts for a high share of employment in the Byelorussian SSR and in the Ukrainian SSR, and it seems unlikely that big changes in the medium-term will take place. Employment per 100 hectares of agricultural land in these two Soviet Republics is already similar to Czechoslovakia and the German Democratic Republic. Agricultural employment in Poland cannot be compared with that of other countries and future trends are uncertain. A steady decline in farm employment up to 1980 was followed by a slight increase in 1981. In 1982 the trend probably reversed again. The large number of small farms with an aging labour force may bring about labour shortages in agriculture in the medium term which cannot be compensated by inputs of technical equipment.

TABLE 3.2.14

Employment in agriculture

Period	Economically active population in agriculture		Percentage of total economically active population	Labour force per 100 hectares of agricultural land	Economically active population in agriculture		Percentage of total economically active population	Labour force per 100 hectares of agricultural land
	Total (thousands)	Annual percentage change			Total (thousands)	Annual percentage change		
Bulgaria								
1976-1980 ^a	1 074	-2.6	24.9	17.3	3 379	-4.9	32.8	22.5
1979	1 056	-0.1	24.4	17.0	3 203	-5.1	31.0	21.4
1980	1 047	-0.7	23.8	16.9	3 088	-3.6	29.8	20.6
1981	1 032	1.4	23.1	16.7	3 003	-2.8	28.9	20.1
Czechoslovakia								
1976-1980 ^a	971	-1.1	13.4	14.0	26 340	-0.4	21.3	4.8
1979	955	-0.7	13.1	13.7	26 200	-0.2	21.0	4.7
1980	953	-0.2	13.0	13.9	26 000	-0.2	20.0	4.7
1981	958	0.5	12.9	14.0	25 900	-0.4	20.0	4.7
German Democratic Republic								
1976-1980 ^a	823	-0.4	10.1	13.1	1 266	-1.5	25.4	13.0
1979	822	-0.1	10.0	13.1	1 243	-1.6	24.6	12.8
1980	823	0.1	10.0	13.1	1 223	-1.6	24.1	12.7
1981	828	0.6	10.0	13.2	..	..	..	..
Hungary								
1976-1980 ^a	1 039	-1.6	20.5	15.5	6 103	-1.7	24.0	14.4
1979	1 029	0.1	20.3	15.5	5 970	-2.5	23.2	14.0
1980	1 037	0.8	20.6	15.6	5 866	-1.8	22.5	13.9
1981	1 043	0.6	20.0	15.8	5 759	-1.8	22.9	13.7
Poland								
1976-1980 ^a	5 200	-1.2	30.2	27.0	..	..	..	..
1979	5 174	-1.6	30.0	27.2	..	..	..	..
1980	5 081	-1.8	29.4	26.8	..	..	..	..
1981	5 098	0.3	29.4	27.0	..	..	..	..
Romania								
1976-1980 ^a	3 379	-4.9	32.8	22.5	3 379	-4.9	32.8	22.5
1979	3 203	-5.1	31.0	21.4	3 203	-5.1	31.0	21.4
1980	3 088	-3.6	29.8	20.6	3 088	-3.6	29.8	20.6
1981	3 003	-2.8	28.9	20.1	3 003	-2.8	28.9	20.1
Soviet Union								
1976-1980 ^a	26 340	-0.4	21.3	4.8	26 340	-0.4	21.3	4.8
1979	26 200	-0.2	21.0	4.7	26 200	-0.2	21.0	4.7
1980	26 000	-0.2	20.0	4.7	26 000	-0.2	20.0	4.7
1981	25 900	-0.4	20.0	4.7	25 900	-0.4	20.0	4.7
Byelorussian SSR								
1976-1980 ^a	1 266	-1.5	25.4	13.0	1 266	-1.5	25.4	13.0
1979	1 243	-1.6	24.6	12.8	1 243	-1.6	24.6	12.8
1980	1 223	-1.6	24.1	12.7	1 223	-1.6	24.1	12.7
1981	..	..	..	..	..	..	..	..
Ukrainian SSR								
1976-1980 ^a	6 103	-1.7	24.0	14.4	6 103	-1.7	24.0	14.4
1979	5 970	-2.5	23.2	14.0	5 970	-2.5	23.2	14.0
1980	5 866	-1.8	22.5	13.9	5 866	-1.8	22.5	13.9
1981	5 759	-1.8	22.9	13.7	5 759	-1.8	22.9	13.7

Sources: As for table 3.2.1.

Note: Data cover the total number of persons occupied in agriculture. Data for Bulgaria, Czechoslovakia, Hungary, Poland, Romania and the Soviet Union are annual averages. Data for the German Democratic Republic refer to the end-September census.

^a Average.

(b) Land

The development of land use patterns shows similarities between most countries. The area of agricultural land has been decreasing moderately over the long term, due to urbanization, infrastructural measures and industrialization. Only the Soviet Union expanded its agricultural area in recent years (table 3.2.15 and chart 3.2.2). All countries continue serious efforts to stabilize the area of arable land. In Bulgaria the arable area stayed constant in recent years, and it is even slightly bigger than in 1975. In Czechoslovakia, the decreasing trend has not yet been stopped, though it has slowed down. In contrast to the annual decrease of 31,000 hectares of agricultural land in 1976-1980, the fall in 1982 was only 8,400 hectares (of which 1,100 hectares was arable land). The German Democratic Republic also has a greater arable area than in 1975, but it declined between 1979 and 1981. This trend stopped in 1982, following efforts to enlarge the grain area. The decrease of arable land in Hungary has slowed considerably, but has not yet been arrested. No progress in slowing down losses of arable land is visible in Poland. But both Romania and the Soviet Union have continuously expanded the area of arable land. Arable area per head of the population has thus remained stable in spite of the population increase.

The structure of land use has changed moderately. Within the total of arable land, areas under grain have decreased in absolute and, in most countries, relative terms (table 3.2.15). Only in Poland and Romania has the grain area expanded slightly. Detailed information on developments in 1982 is not yet available in most cases. Czechoslovakia reported increased plantings of catch-crops designed to lengthen the period of summer feeding. The German Democratic Republic continues efforts to enlarge the grain area at the expense of pasture land, which is to be more intensively used. Within the grain area, wheat cultivation has been expanded in Bulgaria and in the Byelorussian SSR. It has stayed more or less constant in most other countries, but tended to fall in Poland and has fluctuated from year to year in the Ukrainian SSR. Available information suggests that considerable attention was paid to land reclamation in 1982. Most countries have extended the areas of irrigated and drained land during past years. Czechoslovakia exceeded the plan for the construction of new irrigation systems during 1976-1980 by 23 per cent. The German Democratic Republic improved drainage and irrigation systems on 103.5 thousand hectares in 1982. In the Soviet Union, about 1.5 million hectares of newly irrigated and drained land was handed over to state and collective farms in that year, bringing the total area of improved land in the country to 32 million hectares.

TABLE 3.2.15

Distribution of agricultural land

Country and period	Agricultural land	Arable land	Hectare per capita	(Thousand hectares)	Land under grain			Land reclamation		
	(Thousand hectares)	(Thousand hectares)			Per cent of arable land	of which: Under wheat (thousand hectares)	Per cent of arable land	Irrigated (thousand hectares)	Drained (thousand hectares)	
<i>Bulgaria</i>										
1975	5 955	3 699	0.42	2 323	62.8	912	24.7	1 185	..	
1979	6 206	3 734	0.42	2 255	60.4	958	25.7	1 185	..	
1980	6 185	3 700	0.42	2 226	60.2	968	26.2	1 182	..	
1981	6 179	3 733	0.42	2 161	57.9	1 032	27.6	1 170	..	
<i>Czechoslovakia</i>										
1975	7 004	4 899	0.33	2 834	57.7	1 183	24.1	..	..	
1979	6 952	4 849	0.32	2 841	58.2	1 111	22.8	..	..	
1980	6 851	4 800	0.31	2 709	57.0	1 197	24.9	..	..	
1981	6 842	4 787	0.31	2 683	56.0	1 090	22.8	..	..	
<i>German Democratic Republic</i>										
1975	6 295	4 699	0.28	2 562	54.5	689	12.9	620	447	
1979	6 280	4 767	0.28	2 539	53.3	712	14.9	843	1 463	
1980	6 269	4 760	0.28	2 575	54.1	707	14.9	899	1 523	
1981	6 264	4 741	0.28	2 534	53.4	675	14.2	945	1 565	
<i>Hungary</i>										
1975	6 770	5 126	0.49	3 219	62.8	1 251	24.4	..	..	
1979	6 651	5 035	0.48	3 011	59.8	1 135	22.5	..	..	
1980	6 627	5 026	0.47	2 988	59.5	1 276	25.4	..	..	
1981	6 601	5 024	0.47	2 883	57.4	1 151	22.9	..	..	
<i>Poland</i>										
1975	19 209	14 674	0.43	8 093	55.2	1 842	12.6	491	3 453	
1979	18 991	14 450	0.41	8 044	55.7	1 549	10.7	517	3 801	
1980	18 947	14 394	0.41	8 035	55.8	1 609	11.2	519	3 819	
1981	18 910	14 236	0.40	8 075	56.7	1 418	10.0	521	3 837	
<i>Romania</i>										
1975	14 946	9 736	0.46	6 348	65.2	2 386	24.5	1 447	..	
1979	14 967	9 807	0.44	6 418	65.4	2 140	21.8	2 253	..	
1980	14 963	9 824	0.44	6 577	66.9	2 279	23.2	2 300	..	
1981	14 948	9 840	0.44	6 649	67.6	2 141	21.8	..	..	
<i>Soviet Union</i>										
1975	548 812	225 462	0.89	127 920	56.7	61 985	27.5	14 241	11 065	
1979	552 847	226 319	0.86	126 351	55.8	57 682	25.5	17 000	13 276	
1980	553 565	226 417	0.85	126 608	55.9	61 475	27.1	17 256	13 693	
1981	553 751	226 597	0.85	125 559	55.4	59 232	26.1	17 793	13 795	
<i>Byelorussian SSR</i>										
1975	9 785	6 128	0.65	2 604	42.5	196	3.2	139	2 041	
1979	9 632	6 189	0.65	3 044	49.2	165	2.7	152	2 384	
1980	9 646	6 196	0.64	3 139	50.7	209	3.4	163	2 448	
1981	9 634	6 195	0.64	3 017	48.7	245	3.9	173	2 430	
<i>Ukrainian SSR</i>										
1975	42 203	34 259	0.70	16 540	48.3	7 976	23.3	1 483	1 887	
1979	42 091	34 230	0.69	16 090	47.0	6 692	19.5	1 921	2 286	
1980	42 069	34 232	0.68	16 473	48.1	8 031	23.5	2 013	2 378	
1981	42 047	34 228	0.68	16 671	48.7	..	..	2 098	2 407	

Sources: As for table 3.2.1.

(c) Investments

Data on investments in agriculture in 1982 are not yet available. Developments in different countries over the last three years have in fact varied widely (tables 3.2.16 and 3.2.17). In Bulgaria, agriculture retained a fairly constant share in the growth of total investments and in investments in the material sphere in 1979–1981, but it remained slightly below the 1976–1980 level. A rapid decrease of agricultural investment in Czechoslovakia during 1979–1980 was reversed in 1981 when its volume and share rose above the 1976–1980 five-year average though its share within fast-growing material sphere investment declined sharply. Agriculture is expected to

remain a priority feature of a generally restrictive investment policy. The German Democratic Republic has tended to reduce allocations to agriculture, but at a slower rate than previously, in 1980 and 1981. Agricultural investments in Hungary are characterized by strong fluctuations. A big decline in 1980 was followed by a strong (6.5 per cent) growth in 1981. These changes imply pragmatic adaptation of agricultural policy to changes in current economic conditions. In Poland, the volume of capital expenditures in agriculture sharply decreased, but not as fast as for total investment or for investment in the material sphere. This development reflects efforts to overcome the results of long lasting undervaluation of the importance of agriculture within

TABLE 3.2.16
Investment and fixed assets in agriculture

Country and period	Investment				Fixed assets	
	Total (millions of n.c.u. at constant prices)	Annual percentage change	Percentage of:		Total (millions of n.c.u. at constant prices)	Percentage of total fixed assets in the material sphere
			Total investment	Investment in material sphere		
<i>Bulgaria</i>						
1976-1980 ^a	827	4.4	13.4	18.0	7 395	17.4
1979	782	-1.1	12.9	17.1	7 949	16.9
1980	895	14.9	12.6	17.4	8 337	16.4
1981	984	9.9	12.5	17.4	8 782	16.0
<i>Czechoslovakia</i>						
1976-1980 ^a	15 178	5.3	10.6	15.6	192 903	15.0
1979	15 210	-6.7	10.3	15.6	205 152	15.1
1980	14 641	-3.7	9.7	14.7	217 839	15.2
1981	15 588	6.5	10.9	15.9	232 278	15.2
<i>German Democratic Republic</i>						
1976-1980 ^a	5 511	1.8	10.4	13.4	55 683	12.8
1979	5 335	-4.3	9.8	12.7	58 442	12.8
1980	5 313	-0.4	9.7	12.5	61 662	12.8
1981	5 300	-0.2	9.6	12.3	64 900	12.7
<i>Hungary</i>						
1976-1980 ^a	34 007	2.9	15.2	22.1	303 554	19.1
1979	35 892	-0.8	15.1	21.9	319 649	19.0
1980	32 851	-8.5	14.7	22.0	339 094	18.9
1981	34 980	6.5	16.7	24.9	352 231	18.5
<i>Poland</i>						
1976-1980 ^a	100 994	7.9	16.3	22.1	1 252 600	24.9
1979	106 897	-3.6	17.5	23.2	1 336 000	24.5
1980	88 600	-17.1	16.5	22.1	1 425 000	24.6
1981	77 000	-13.1	18.6	25.5	1 475 000	24.6
<i>Romania</i>						
1976-1980 ^a	25 703	9.2	13.8	16.4	175 022	14.7
1979	26 833	-1.7	13.1	15.5	187 404	14.5
1980	28 008	4.4	13.3	15.7	199 469	14.1
1981	30 921	10.4	15.8	18.9	214 006	13.9
<i>Soviet Union</i>						
1976-1980 ^a	25 863	5.3	20.4	27.5	208 964	20.8
1979	26 631	1.6	20.4	27.4	222 630	20.7
1980	27 044	1.5	20.2	27.2	238 930	20.8
1981	27 700	2.4	20.0	26.7	256 160	20.8
<i>Byelorussian SSR</i>						
1976-1980 ^a	1 107	4.1	26.4	31.0	8 700	28.1
1979	1 138	1.1	26.8	31.4	9 300	27.8
1980	1 149	1.0	26.7	31.4	9 900	27.6
1981	1 146	-0.3	25.6	30.2		
<i>Ukrainian SSR</i>						
1976-1980 ^a	4 026	3.9	21.5	24.7	38 500	23.0
1979	4 058	-2.6	21.3	24.5	41 000	23.0
1980	4 046	-0.3	21.4	24.5	43 500	23.1
1981					46 000	23.2

Source: As for table 3.2.1.

^a Annual average.

the national economy and to stabilize agricultural output. Since 1980, Romania has devoted increasing attention to agriculture, expressed by a growth of 10.4 per cent in farm investments in 1981. In 1982, their share was reported to be 16.8 per cent of the total gross fixed capital formation. In the Soviet Union, agricultural investment followed the path laid down in the five-year plan for 1981-1985 - a small increase in absolute volume, but a slightly decreasing share in total allocations and in allocations to the material sphere. However, it is noteworthy that expenditures on the entire agro-industrial complex account for about one third of all investment activities (see chart 3.2.2).

(d) Fixed assets

In all countries of the region the stock of fixed assets in agriculture increased (tables 3.2.16 and 3.2.18). In consequence, so did fixed assets per unit of land and per worker. The share of agricultural fixed assets in the material sphere remained stable in Czechoslovakia, the German Democratic Republic, Poland and the Soviet Union, but showed decreasing trends in the German Democratic Republic and Hungary. In Bulgaria and Romania, a big part of investments appears to have served rather for replacement than for expansion of the capital stock (see chart 3.2.2).

TABLE 3.2.17
Investment in agriculture
(Indices: 1976-1980 = 100)

	1979	1980	1981
Bulgaria	94.6	108.2	119.0
Czechoslovakia	99.8	96.8	101.9
German Democratic Republic	96.8	96.4	96.1
Hungary	105.4	96.6	102.9
Poland	105.8	87.7	76.2
Romania	104.4	109.0	120.3
Soviet Union	103.0	104.6	107.1

Sources: As for table 3.2.1.

TABLE 3.2.18
Changes in agricultural fixed assets
(Indices: 1976-1980 = 100)

	1979	1980	1981
Bulgaria	105.9	111.5	117.2
Czechoslovakia	106.3	113.1	120.4
German Democratic Republic	105.0	110.7	116.6
Hungary	105.3	111.7	116.0
Poland	106.7	113.8	117.8
Romania	107.1	114.0	122.3
Soviet Union	106.5	114.3	122.6

Source: As for table 3.2.1.

TABLE 3.2.19
Stocks and deliveries of agricultural machinery

Country and period	Stocks of tractors				Deliveries	
	Physical units (thousands)	Motor h.p. (in million h.p.)	Agricultural land per tractor (in hectares)	Motor h.p. per 100 hectares of arable land	Tractors (thousands)	Grain combines (thousands)
<i>Bulgaria</i>						
1976-1980 ^a	64.1	3.8	97	101	4.8	1.0
1979	63.4	3.9	98	105	3.6	0.8
1980	62.0	3.9	100	106	4.4	0.6
1981	60.5	3.9	102	105	3.8	1.1
<i>Czechoslovakia</i>						
1976-1980 ^a	139.1	8.4	50	171	7.3	1.6
1979	138.0	8.6	50	177	7.5	1.3
1980	136.7	8.8	50	182	6.3	1.4
1981	134.0	8.8	51	184	5.1	1.0
<i>German Democratic Republic</i>						
1976-1980 ^a	140.3	8.4	45	177	8.1	0.7
1979	142.6	8.9	44	187	8.3	0.3
1980	144.5	9.3	43	195	6.0	0.5
1981	147.0	9.8	43	207	6.3	0.5
<i>Hungary</i>						
1976-1980 ^a	57.1	3.8	118	75	4.6	1.8
1979	55.4	3.9	120	77	4.7	1.5
1980	55.5	4.1	119	82	4.5	1.1
1981	54.9	4.2	120	84	3.6	0.9
<i>Poland</i>						
1976-1980 ^a	534.0	20.4	36	140	55.0	4.1
1979	599.0	23.2	32	160	57.1	3.6
1980	646.0	25.6	29	178	59.9	4.5
1981	682.0	28.0	28	196	59.4	4.2
<i>Romania</i>						
1976-1980 ^a	138.4	8.7	108	89	13.9	4.2
1979	140.0	8.9	107	90	14.5	2.6
1980	146.6	9.4	102	95	15.3	4.6
1981	156.0	9.7	96	98	21.2	6.2
<i>Soviet Union</i>						
1976-1980 ^a	2 495	178.0	222	79	361.2	107.8
1979	2 540	185.6	218	82	354.8	112.0
1980	2 562	191.5	216	85	347.6	117.5
1981	2 595	199.8	213	88	353.5	105.0
<i>Byelorussian SSR</i>						
1976-1980 ^a	111.9	6.8	87	110	15.8	3.9
1979	115.2	7.2	83	116	15.8	4.0
1980	117.2	7.6	82	123	15.0	4.1
1981	120.1	7.9	80	127	14.8	3.9
<i>Ukrainian SSR</i>						
1976-1980 ^a	397.2	21.7	106	79	52.7	13.6
1979	403.7	28.3	104	83	52.0	13.9
1980	408.8	29.4	103	86	49.5	12.8
1981	420.0	31.0	102	88	51.4	12.1

Sources: As for table 3.2.1.

^a Annual average.

Stocks of agricultural machinery have continued to increase in all countries (table 3.2.19). In Bulgaria, Czechoslovakia and Hungary, the quality of the tractor park changed considerably in favour of high-powered units and the number of tractors fell. A similar qualitative development took place in all other countries but it was less pronounced and accompanied by absolute increases in the number of tractors. In Romania, deliveries of tractors rose considerably in recent years compared with the annual average of 1976–1980. The same was true in Poland but to a smaller extent. In the

other countries, deliveries took place at a lower rate during the last three years. A comparison of deliveries with the change in the tractor park shows that most served for replacement purposes. The only exception is Poland. In general, there are still shortages of machinery in all countries during peak activity seasons (sowing and harvesting) – particularly with respect to spare parts deliveries. All countries are attempting to remedy such shortcomings by improving the structure of the machine-building industries.

TABLE 3.2.20

Supplies of chemical fertilizers and plant protection chemicals and consumption of electricity in agriculture

Country and period	Fertilizer supplies (in pure nutrient content)		Supplies of plant protection chemicals		Consumption of electricity in agriculture	
	Total (1,000 tons)	kg/ha of arable land	Total (1,000 tons)	kg/ha of arable land	Total in GWh	KWh per ha of agricultural land
<i>Bulgaria</i>						
1976–1980 ^a	758	204	32.0	8.6	1 029	166
1979	820	220	34.8	9.3	1 118	180
1980	830	224	40.0	10.8	1 115	180
1981	1 044	280	48.7	13.0	1 110	180
<i>Czechoslovakia</i>						
1976–1980 ^a	1 706	350	..	..	2 632	379
1979	1 745	360	..	..	2 639	381
1980	1 730	358	..	..	2 715	396
1981	1 720	359	..	..	2 491	364
<i>German Democratic Republic</i>						
1976–1980 ^a	1 699	357	25.4	5.3	3 694	588
1979	1 713	359	26.7	5.6	3 799	605
1980	1 637	344	27.0	5.7	3 891	621
1981	1 726	364	27.0	5.7	4 062	649
<i>Hungary</i>						
1976–1980 ^a	1 468	290	..	..	1 977	296
1979	1 502	298	..	..	2 089	314
1980	1 399	278	..	..	2 095	316
1981	1 485	296	..	..	2 195	333
<i>Poland</i>						
1976–1980 ^a	3 613	250	46.3	3.2	4 385	228
1979	3 567	247	44.4	3.0	4 811	253
1980	3 635	251	29.3	2.0	5 360	274
1981	3 499	246	38.4	2.0	5 701	302
1982	3 300	197				
<i>Romania</i>						
1976–1980 ^a	1 274	130	..	..	2 599	174
1979	1 431	146	..	..	2 564	171
1980	1 185	121	..	..	2 821	189
1981	1 618	164	..	..	3 181	213
<i>Soviet Union</i>						
1976–1980 ^a	18 064	80	..	..	96 058	174
1979	17 365	77	..	..	102 301	185
1980	18 763	83	482	2.1	111 000	200
1981	19 176	85	509	2.2	114 000	206
1982	20 100	..	..	..	..	..
<i>Byelorussian SSR</i>						
1976–1980 ^a	1 496	242	..	..	2 980	306
1979	1 452	250	..	..	3 121	324
1980	1 470	253	..	..	3 412	352
1981	1 576	271	..	..	3 485	362
1982	1 600	..	..	..	..	..
<i>Ukrainian SSR</i>						
1976–1980 ^a	3 630	106	..	..	16 850	400
1979	3 387	103	..	..	17 976	427
1980	3 713	112	..	..	18 922	451
1981	3 700	108	..	..	18 900	450
1982	4 100	..	..	..	..	..

Sources: As for table 3.2.1.

^a Annual average.

(e) *Other inputs*

Mineral fertilizer use increased over the last few years in Bulgaria, Romania and the Soviet Union in comparison with the average of the previous five-year period – and especially in 1981 (table 3.2.20). This may be one reason for the improvement in crop production in 1982. In Czechoslovakia, the German Democratic Republic and Hungary, high levels of fertilizer consumption remained unchanged and seem to be at a maximum under the specific conditions of use. In Poland, demand was not satisfied since import possibilities limited supplies.

The output of mineral fertilizers rose faster than consumption in the region (table 3.2.21). Bulgaria, Czechoslovakia, Hungary and Poland are still net

importers. The increasing gap between production and consumption influenced the foreign trade pattern of these countries in recent years. As indicated in the five-year plans, output will further increase in all countries, with simultaneous improvements in the structure of fertilizers.

Consumption of electricity, total and per hectare, increased in countries except Bulgaria, where the growth of output was achieved without any increase in consumption per output unit in 1981. Electricity consumption is very high in the German Democratic Republic. While this partly reflects the high degree of large-scale arable farming, it does not correspond with policies to save energy of all types and to decrease consumption per output unit. Some reversal of past trends is likely for 1982.

TABLE 3.2.21

Mineral fertilizer: production and consumption
(Thousand tonnes)

	Production			Consumption			Balance		
	1975	1980	1981	1975	1980	1981	1975	1980	1981
Bulgaria	626	653	710	679	830	1 044	-53	-177	-334
Czechoslovakia	1 059	1 233	1 139	1 604	1 730	1 720	-545	-497	-581
German Dem.Rep.	3 984	4 735	4 787	1 826	1 637	1 726	2 655	3 098	3 061
Hungary	704	1 045	1 112	1 518	1 399	1 485	-814	-354	-373
Poland	2 581	2 238	2 242	3 460	3 635	3 499	-879	-1 397	-1 257
Romania	1 729	2 451	2 640	1 197	1 185	1 618	532	1 266	1 022
Eastern Europe	10 683	12 355	12 630	10 284	10 416	11 092	399	1 939	1 538
Soviet Union	21 998	24 767	25 998	17 251	18 763	19 176	4 747	6 004	6 822
Eastern Europe + Soviet Union	32 681	37 122	38 628	27 535	29 179	30 268	5 146	7 943	8 360

Sources: As for table 3.2.1.

(f) *Efficiency*

Changes in labour productivity, capital intensity and capital productivity are shown in tables 3.2.22 and 3.2.23 and chart 3.2.3.

Only Bulgaria achieved continuous labour productivity performance growth at increasing rates in recent years as compared with 1976–1980. Most countries still need to eliminate wide year-to-year fluctuations in output, the main reason for discontinuous labour productivity growth. The considerable expenditures on

inputs have not so far been able to stabilize year-to-year output development. Capital intensity rose significantly faster than labour productivity and was accompanied by falls in capital productivity. Thus, efforts to intensify agricultural production have not yet sufficiently paid off, and tendencies prevailing during 1976–1980 have not yet been changed as planned during the current five-year plan. Slight improvements in this picture will probably emerge in 1982 for most countries but the German Democratic Republic and Poland.

TABLE 3.2.22

Employment and labour productivity in agriculture
(Annual percentage changes)

	Employment			Labour productivity ^a		
	1976–1980	1980	1981	1976–1980	1980	1981
Bulgaria	-2.6	-0.7	-1.4	3.6	4.7	7.4
Czechoslovakia	-1.1	-0.2	0.5	3.3	5.0	-3.0
German Dem.Rep.	-0.4	0.1	0.6	1.6	-0.1	0.9
Hungary	-1.6	0.8	0.6	3.5	3.5	0.4
Poland	-1.2	-1.8	0.3	1.7	-8.9	5.1
Romania	-4.9	-3.6	-2.8	9.2	-0.5	1.7
Soviet Union	-0.4	-0.2	-0.4	2.8	-1.7	-0.6

Sources: As for table 3.2.1.

^a Gross output per employee.

TABLE 3.2.23
Capital intensity, capital productivity and labour productivity
(Indices: 1973-1977 = 100)

	Bulgaria	Czechoslovakia	German Democratic Republic	Hungary	Poland	Romania	Soviet Union
<i>A. Fixed assets per hectares of arable land</i>							
1975	98.1	100.1	99.7	99.8	99.0	99.6	100.2
1980	140.9	141.1	126.8	136.6	139.9	143.5	143.7
1981	147.2	150.9	133.9	141.9	146.4	153.7	153.6
<i>B. Fixed assets per employee</i>							
1975	99.3	98.9	99.5	100.4	98.8	99.9	100.2
1980	162.0	146.9	131.0	141.5	147.2	181.8	147.7
1981	173.1	155.7	137.0	146.1	151.8	200.5	158.6
<i>C. Capital productivity</i>							
1975	103.4	99.8	101.2	94.1	100.0	95.2	93.9
1980	75.1	79.2	84.1	85.1	62.5	79.6	70.5
1981	75.5	72.4	81.2	82.8	66.7	73.5	65.3
<i>D. Labour productivity</i>							
1975	102.7	99.3	100.7	101.6	98.8	95.1	94.2
1980	121.6	117.0	110.1	120.4	96.5	144.7	104.2
1981	130.6	113.5	111.3	121.0	101.3	147.4	103.6

Sources: As for table 3.2.1.

CHART 3.2.2

**Agriculture:
output and factor inputs**
(Indices, 1973-1977=100)

BULGARIA

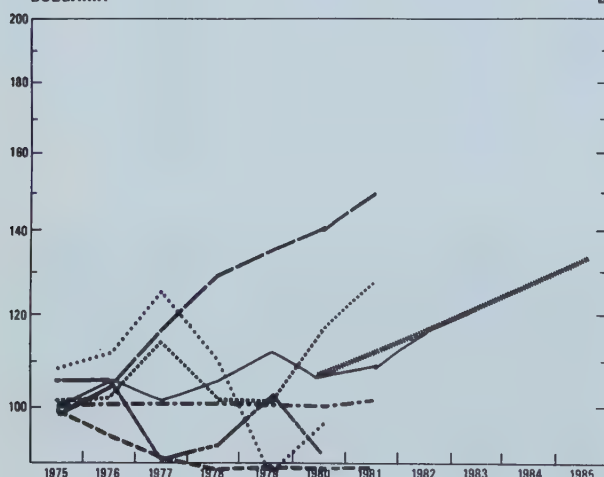
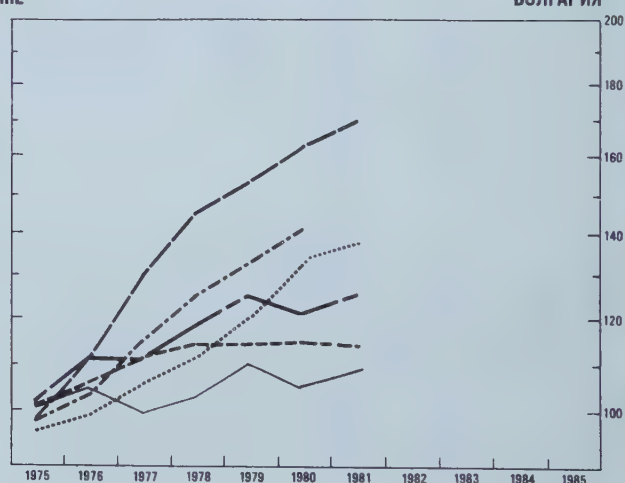


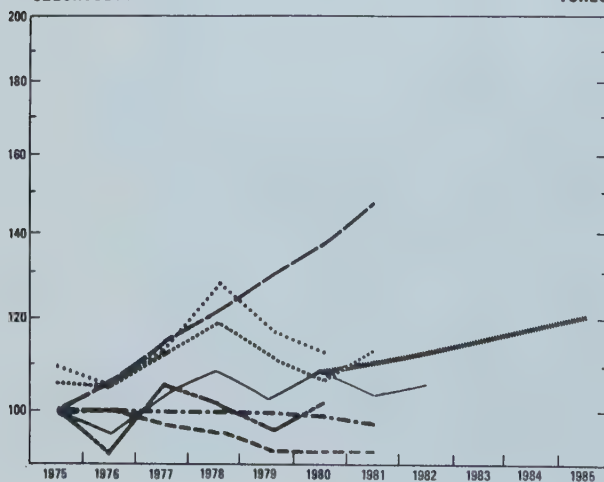
CHART 3.2.3

**Agriculture:
efficiency indicators**
(Indices, 1973-1977=100)

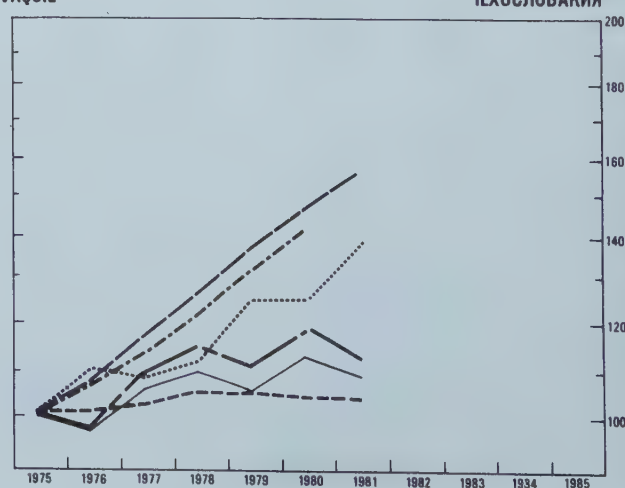
BULGARIE



CZECHOSLOVAKIA



TCHÉCOSLOVAQUIE



ЧЕХОСЛОВАКИЯ

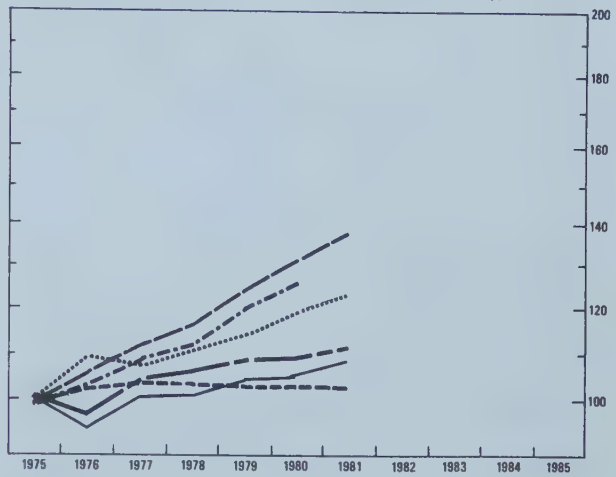
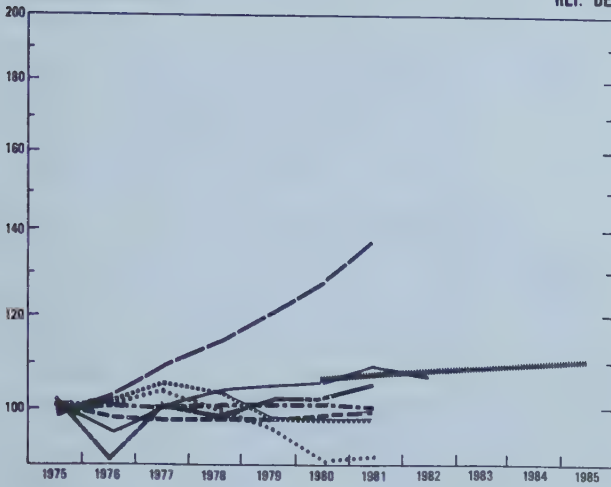
CHART 3.2.2 (continued)

CHART 3.2.3 (continued)

GERMAN DEM. REP.

RÉP. DÉM. ALLEMANDE

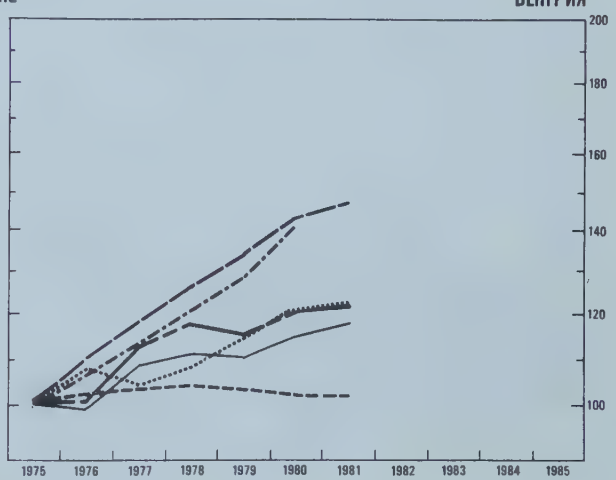
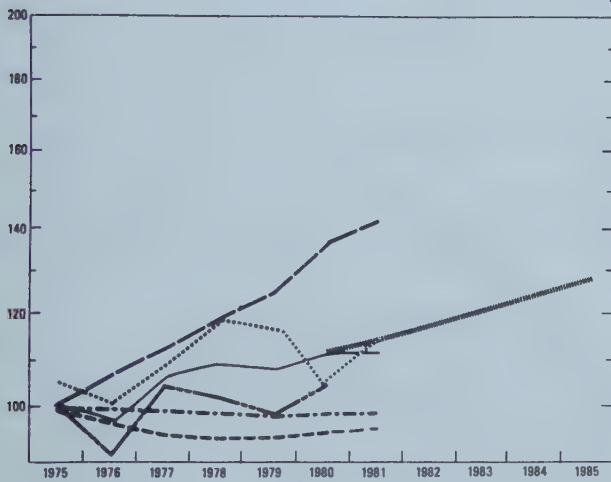
ГЕРМАНСКАЯ ДЕМ. РЕСП.



HUNGARY

HONGRIE

ВЕНГРИЯ



POLAND

POLOGNE

ПОЛЬША

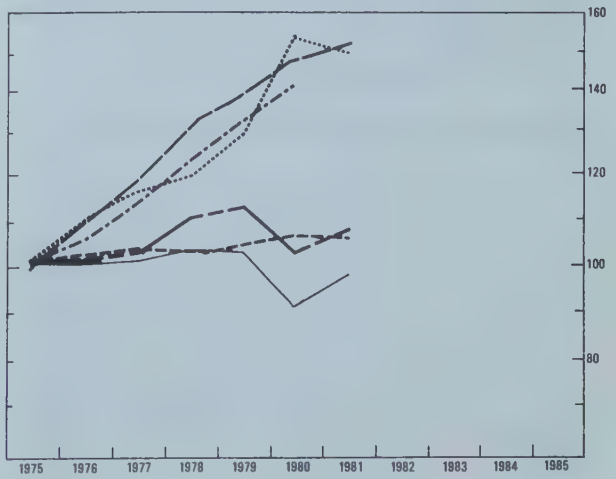
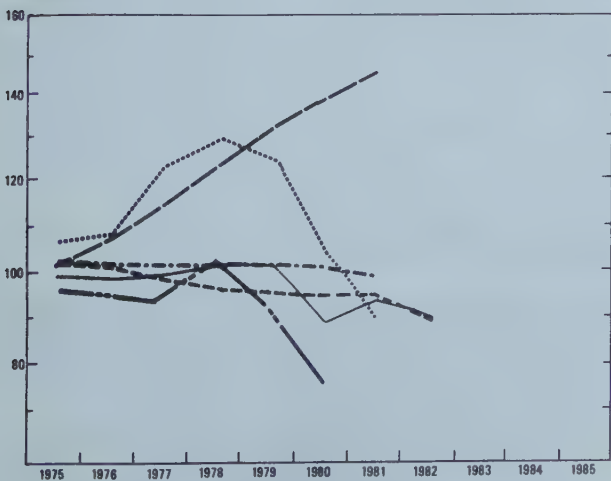
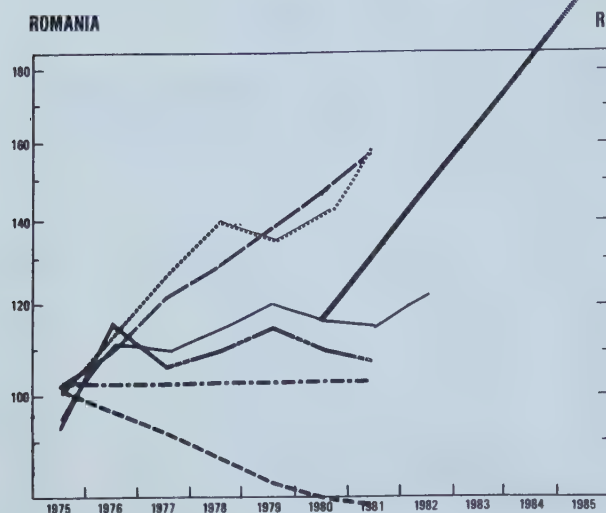
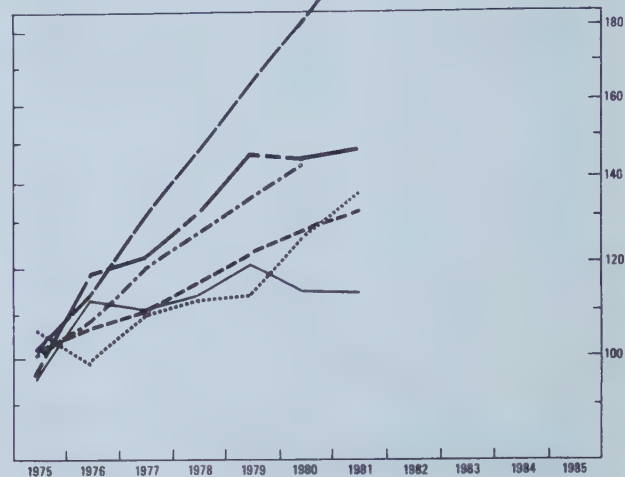


CHART 3.2.2 (concluded)

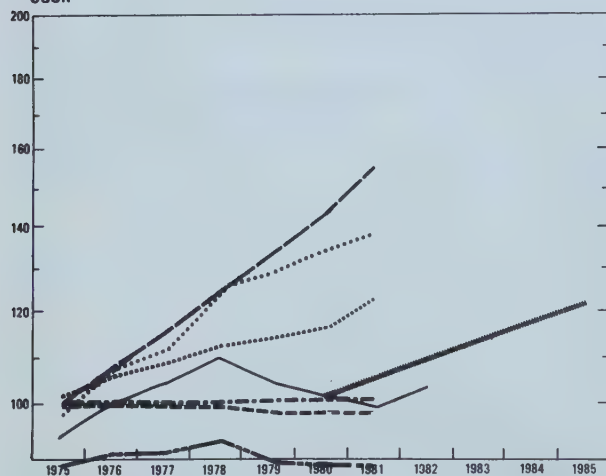


ROUMANIE

РУМУНИЯ

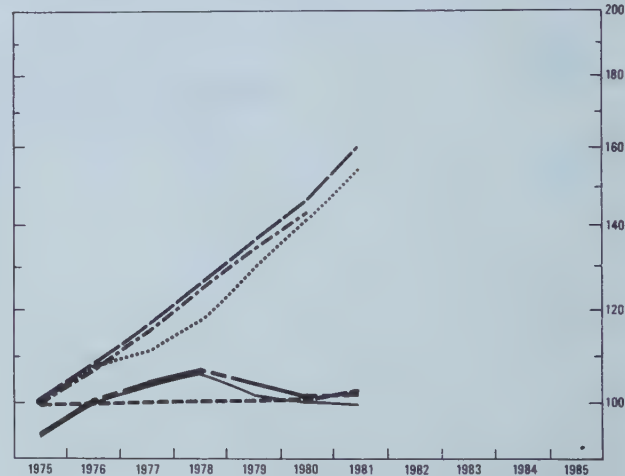


USSR



URSS

СССР



— Gross output
 — Gross output (Five-year plan)
 - - Net output
 . . . Employment
 - . - . Arable land
 — Fixed assets
 - - - Gross fixed capital formation/total
 . . . Gross fixed capital formation/machinery & equipment

— Gross output/land ratio
 — Gross output/per employee
 - - Land employment ratio
 - - Fixed assets/land ratio
 . . . Fixed assets/gross output ratio
 — Fixed assets/per employee

3.2(vi) Changes in agricultural policy

In all countries economic policy to promote agricultural development has been the subject of a variety of general documents, laws and regulations covering long- and medium-term programmes. Detailed regulations have been drafted and adopted.

First and foremost should be mentioned the *Food Programme of the Soviet Union* for the period ending in 1990, adopted in 1982 by the Central Committee of the CPSU.

The Food Programme envisages a radical turn in the development of agriculture which aims to improve

progress throughout the Soviet economy. Its main orientation is as follows:

(a) to bring about proportional and balanced development of the agro-industrial complex, improved management and planning, strengthened economic incentives in every sector of agriculture, and the gearing of production to a higher level of final output;

(b) to ensure a high rate of agricultural output through continuous rise in the efficiency with which production factors are used, particularly more effective land-use, to implement a comprehensive effort to strengthen the material and technical base, and provide for the speedier

introduction of the latest scientific achievements and progressive experience;

(c) to bring about a comprehensive improvement of the use of the productive and technical potential of the agro-industrial complex, a substantial increase in the return on capital investment and material inputs, and further specialization and concentration of agricultural production on the basis of inter-farm and inter-branch operations;

(d) to facilitate economy and thriftiness, efforts to cut losses and improvements in the quality of agricultural produce, and reconstruction and extension of storage, road and transport facilities;

(e) to bring about further improvement in the social conditions and welfare of rural dwellers.

The following measures were elaborated to implement the requirements of the Food Programme:

(a) to change the management of the agro-industrial complex of the national economy beginning with a target-oriented complex approach and planning; to create agricultural associations and unified management bodies at all levels to co-ordinate all tasks of the agro-industrial complex (the associations are accorded increasing operational autonomy from the highest to the lowest level according to their specific responsibility); in connection with this, to broaden contract systems between economic units and to change the systems of plan indicators in order to give more freedom to produce a given final product; to promote auxiliary farming of enterprises, organizations and individuals based on contractual relations with, and supported by, state and collective farms;

(b) to enforce the use of cost accounting principles and profitability of agricultural enterprises through changes in the credit and price systems;

(c) to provide higher incentives for work teams and individual employees by changing wage systems and by applying new progressive forms of labour organization (collective team sub-contracts, piece-work bonus systems).

Investments in the agro-industrial complex are planned to increase by about 30 per cent during 1981–1990 and fixed assets by about 1.5 times by 1990. Fertilizer supplies will almost double from present levels and the irrigated land area will rise to 23–25 million hectares by 1990. A total area of 15.5 million hectares of drained land is expected by 1985 and 18–19 million hectares by 1990. All branches of collective and state farm production are to be strengthened by providing qualified managers, specialists and qualified workers.

Bulgaria's agricultural policy was determined by principles introduced in 1980. The organization of smaller agro-industrial complexes and their brigades as specialized basic production units²³¹ seems to have succeeded in the light of results in 1981 and 1982. Growing attention has been devoted to the problem of the unfavourable age structure of the rural population and of the agricultural labour force. Financial incentives, children's allowances and housing facilities were introduced to encourage young people to work in the countryside.

In 1982 Czechoslovakia applied the principles of the "Improved System of Planned Management" in agriculture for the first time – though few details are available. The process of re-structuring, which began in 1981, to improve relations between crop and animal production and, within the latter, between cattle and pig production,

progressed. Measures to support small fruit and vegetable growers and livestock breeders have been in force since 1 April 1982.

In the *German Democratic Republic* the 12th Farming Congress took place in May 1982. Emphasis was laid on more efficient use of agriculture's high potential by lowering standard inputs per unit of output in order to increase agriculture's contribution to the national income by about 1 billion marks by 1985. Industrialization and concentration favours closer co-operation between specialized arable and livestock farms. Co-operation councils were elected for local farmers' conferences. They are to organize common tasks within localities and promote the system of territorial production units, which took over responsibility for land use regulation, livestock rearing and machinery availabilities. A new law on agricultural producer co-operatives was passed, to update a previous law of 1959; the new measures stress co-operative ownership in agriculture as a stable and integral part of the socialist economy. In order to strengthen the cost accounting basis for agricultural enterprises and to improve agricultural input-output ratios, a general change in the system of agricultural prices will be implemented in 1983–1985 without changing consumer prices. Economic incentives and material endowments for individual small producers were raised. More than 11 thousand plots in newly-created allotments were given for the use of workers' families.

In *Hungary* no fundamental changes were announced but modifications in the management system were agreed to encourage production, hence to satisfy demand, and also to encourage greater interest in the economic use of equipment, materials and energy. A resolution was adopted by the government on streamlining the management of agriculture and the food industry. The agricultural wage regulation system was also modified. The conditions for establishing technical development funds were revised and the system of production taxes was changed to favour co-operative farms with poor natural endowments. These measures, combined with small changes in average procurement prices and bigger changes in agricultural machinery, agro-chemical and fodder prices (in force since 1 January 1983) will tighten up the financial framework of farms. Small producers are not directly affected, but are given further encouragement. They are to benefit from price measures and will qualify for loans to increase production.

The economic reform in *Poland's* agriculture is characterized by: the principle of inviolability of private farms; uniform treatment of all agricultural enterprises; self-management in co-operative farms; and the introduction of a new economic-financial system in state farms based on economic accountability.

In March 1982, the Polish Parliament – Sejm – passed acts which created legal guarantees for individual peasant property and recognized individual farms as a permanent legitimate segment of the economy. On 8 October 1982 a law on farmers' organization was adopted.²³² It defines the types of associations permitted in agriculture, their rights and tasks. A new social insurance system for farmers and their families was adopted. The conservation of arable land has been strengthened by new bills. The management of state farms and agricultural co-operation is being rationalized. Agricultural profitability has been raised by considerable increases in procurement prices. Subsidies, which were reduced in many sectors in 1982, were

²³¹ *Economic Survey of Europe in 1980*, p.114, and *Economic Survey of Europe in 1981*, p.208.

²³² *Rzeczpospolita*, 14 October 1982.

retained on equipment and services for agriculture. According to official information, the income of farmers has been brought up to the level of the non-agricultural population.

In *Romania*, a draft programme of scientific human nutrition has been endorsed by the Executive Political Committee of the Central Committee of the RCP in 1982. The draft programme takes into account scientific recommendations and the traditional and specific features of food consumption in *Romania*. It is accompanied by measures for encouraging farm output. Special programmes have been worked out to increase grain, vegetable, fruit and grape production, and to expand other branches that can supply raw materials for light industry. These measures are linked to self-sufficiency programmes for regions, towns, and villages introduced in 1981, which include provision for planned exchanges of agricultural produce not locally cultivated.

3.2(vii) Policy objectives for 1983

Bulgaria plans to raise gross agricultural output by 2.7 per cent over 1982. Growth is to be realized entirely from rising labour productivity in view of the lack of further labour reserves. Data on the structure of output are not given, but grain and fodder output are given priority in order to ensure a further increase in meat output.

In *Czechoslovakia* gross agricultural output is planned to rise by 2.7 per cent over 1982. Crop output is to increase by 5.6 per cent in order to remove imbalances between crop and livestock production and to reduce fodder imports. The planned increase of crop output implies that there will be no rise in livestock production, which would reduce the latter's share from 56.2 per cent of total production in 1982 to 55 per cent in 1983. Grain output is planned to increase by 7.1 per cent, to attain the level planned for 1982. Output of perennial fodder and rape-seed is scheduled to rise by more than 17 per cent. Agriculture, in addition to energy and export-oriented industries, is to be a priority investment sector in 1983.

The *German Democratic Republic* plans a moderate growth of 1 per cent for agriculture, forestry and foodstuffs combined. Taking into account the small planned increase of grain output (10.3 million tonnes in 1983) this indicates stabilization at the level achieved in 1982. No increase in livestock or livestock product output is apparently targeted and the possibility of reduced inputs will be offset by lower standards of material consumption per unit of output. Energy consumption per unit of output is to be reduced by 6.2 per cent. The grain area will expand slightly at the expense of the area sown to fodder. This is to be used more intensively. Drainage systems will be improved or built on more than 66 thousand hectares.

Hungary's gross agricultural output is expected to expand by 1–2 per cent over the 1982 level. A priority objective is to improve the standard of pig rearing and fodder production. Cereals are to be sown on 2.9 million hectares – about 50 thousand hectares more than in 1982,

the increase being mainly in wheat and maize. A further increase in agricultural employment is expected, indicating little change in labour productivity.

In *Poland*, gross agricultural output in 1983 is projected at 1.5–2.4 per cent higher than in 1982. Crop output is to increase by 5.1 to 6.9 per cent. The level of grain output is expected to be similar to 1982 but the potato harvest is expected to increase by about 25 per cent. Low fodder output in 1982 is endangering the livestock sector. Hence, a 3 million head decrease in the pig herd is expected, which would lower deliveries to slaughter by more than 10 per cent. The government established several operational programmes to ensure achievement of the basic objectives in the annual plan. They include a 15 per cent increase in the supply of equipment for agriculture and the food industry.

The gross agricultural output plan for *Romania* envisages an increase by 5.1–5.6 per cent compared with 1982. Detailed plan targets are rather high. Grain output is projected to increase by 13.4 per cent, of which wheat and rye by 26 per cent and maize by 8.4 per cent. For potatoes, vegetables and fruit, targets are for increases between 22.7 and 47.2 per cent. The plan aims to achieve a 45 per cent share of animal husbandry in total agricultural output. This implies an increase of at least 15 per cent in livestock product output over the 1982 level. The planned development of livestock for the end of 1983 corresponds to this high target. The arable area will be further expanded, as also irrigated and drained land areas. Deliveries of tractors, combines, fertilizers and plant protection chemicals will be higher than in 1982. Investments will increase to 38.3 billion lei (plan 1982 – 35.6 billion) and would thus account for 16.8 per cent of total investments.

The *Soviet Union* plans the highest increase of gross agricultural output in the region – some 10.5 per cent. No detailed figures for the planned structure have been given but the total volume of output and purchases of crop farming products is planned to attain the level of the five-year plan targets for 1983. But for livestock output, production and procurement targets are lower because of inadequate supplies of fodder from the 1982 harvest.

The plan has been drafted in accordance with the "Food Programme" already described above. A total of 47 billion roubles, 4.3 per cent more than in 1982, will be invested in the agro-industrial complex, of which 37.7 billion roubles for agriculture. High capital expenditure growth rates are planned for fodder production (15 per cent) and for vegetable and fruit storage (23 per cent). Deliveries of fertilizers in 1983 are set at 22.8 million tonnes, 13.4 per cent more than in 1982. Water supplies will be improved on 4 million hectares of pasture-land, and a further 1.5 million hectares of arable land are scheduled to be drained and irrigated. The plan makes provision for developing agricultural output in subsidiary farms and personal plots. The comprehensive measures to develop agricultural output in 1983 involve procurement price changes, introduced on 1 January 1983. These measures are intended to raise farm profitability.

3.3 INDUSTRY

The following section examines the main trends of industrial development in eastern Europe and the Soviet Union. The first part summarizes the decelerating trend in industrial growth in recent years in the context of changed internal and external conditions of economic development. Growth strategies for five-year plan period 1981–1985 and for the year 1983 are also presented. The second part describes factor inputs and efficiency trends against the background of general economic policy aimed at higher efficiency in the utilization of all production factors. Particular attention is devoted to the trends in labour productivity, capital productivity and material intensity of industrial production. In the third part a discussion of energy supplies and consumption is presented, with stress put on the growing role of the energy sector in economic development. Policy responses to changed conditions in the availability of energy sources by country and within the framework of CMEA are also discussed. The fourth part presents industrial branch developments and changes which occurred in metallurgy, chemical industry, engineering, light and food industries. Changes in the relationships between the production of producer and consumer goods are also examined. A review of developments in 1982 and plans for 1983 by country is given in the final part.

3.3(i) Growth of industrial output

Gross industrial output in the centrally planned economies of eastern Europe and the Soviet Union recorded, in comparison with other regions in the world, a high average annual growth rate of 4.8 per cent during 1976–1980. Industry was the fastest growing sector of the economy. However, economic performance differed between individual countries, industrial growth rates ranging between an average annual rate of 3.4 per cent in Hungary to 9.5 per cent in Romania (tables 3.3.1 and 3.3.2).

In the later part of the 1976–1980 period a deceleration in industrial growth became apparent (chart 3.3.1). It was caused by various factors, notably scarcer energy, raw and other material supplies, fluctuations in the supply of industrial inputs of agricultural origin, declining investments and deteriorating external economic conditions. In the middle of the 1970s strategies to achieve higher efficiency ("intensive growth") were proposed in all the centrally planned economies as the only approach capable of offsetting internal and external growth constraints and promoting dynamic industrial growth. But these strategies were not implemented to the extent necessary to reach the industrial output targets originally planned for 1976–1980.

Plan targets for industrial production over the period 1981–1985 took into account the worsening internal and external conditions for industrial expansion. They incorporated a moderation of growth rates for the region as a whole. Growth strategies contained in the five-year plans for 1981–1985, however, are not identical in all countries of the region. Bulgaria, Czechoslovakia and Romania envisaged lower rates of industrial growth in 1981–1985 than those actually obtained in the preceding five years. In the German Democratic Republic, Hungary and the Soviet Union, a slight acceleration was foreseen. Growth rates planned for gross industrial output are within a range of 2.7 per cent in Czechoslovakia to 7.6 per cent in Romania. The general economic strategy of higher efficiency for the 1981–1985 period remained unchanged though the importance of the shift towards a predominantly intensive development pattern was stressed more strongly in all five-year plans. A decisive role in ensuring industrial development under the new conditions was attributed to intensive growth factors, notably energy and materials conservation, structural change, scientific and technical progress, international co-operation and improvements in the system of planning and management. The gradual adjustment of the centrally planned economies to new

TABLE 3.3.1

Growth of industrial output (Average annual percentage change)

	1976–1980	1981–1985	1981		1982		1983
	Actual	Plan	Plan	Actual	Plan	Actual	Plan
Bulgaria	6.0	5.1	5.6	4.8	4.5	4.6	4.8
Czechoslovakia	4.7	2.7–3.4	2.7	2.1	0.6*	1.0	2.4
German Dem. Rep. ^a	5.0	5.1	5.0	4.7	4.6	3.2	3.8
Hungary	3.4	3.5–4.0	3.0–3.5	2.8	2.0–2.5	2.0	1.0–2.0
Poland	4.7	..	..	–10.5	0.6*	–4*	3.7–4.0 ^b
Romania	9.5	7.6	8.1	2.6 ^c	4.7 ^c	1.1 ^c	6.6
Soviet Union	4.5	4.7	4.1	3.4	4.7	2.8	3.2
Eastern Europe and the Soviet Union	4.8	..	4.0	2.2	4.2	2.2	3.4

Sources: National statistics, plans and plan fulfilment reports.

^a Commodity production.

^b Sales.

^c Marketable production.

CHART 3.3.1

Industry: output and factor inputs

Indices, 1973-1977 = 100

BULGARIA

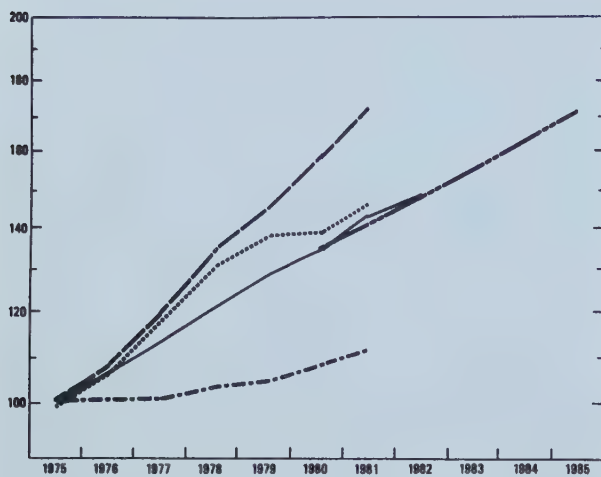
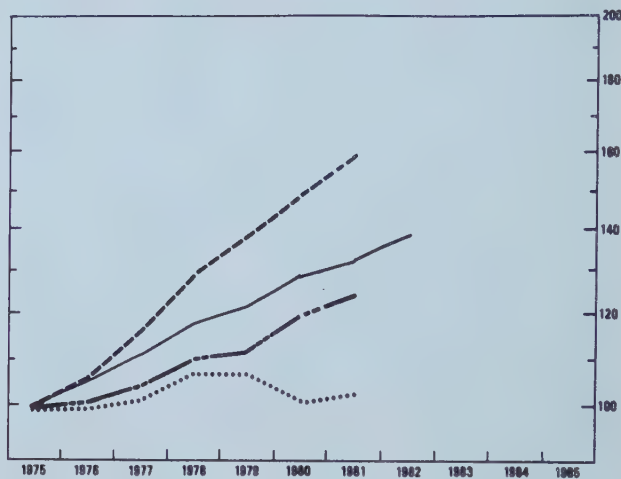


CHART 3.3.2

Industry: efficiency indicators

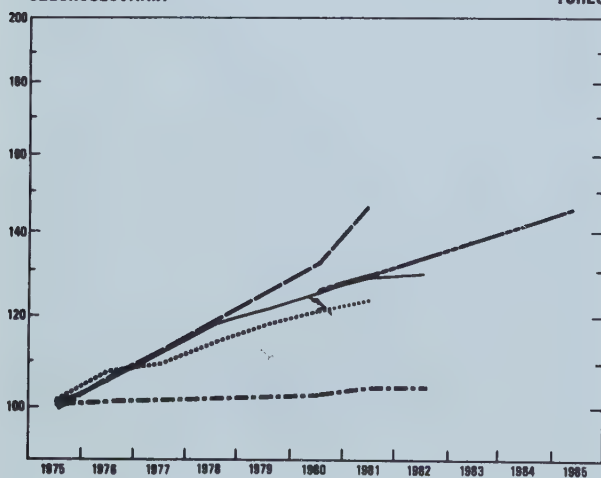
Indices, 1973-1977 = 100

BULGARIE

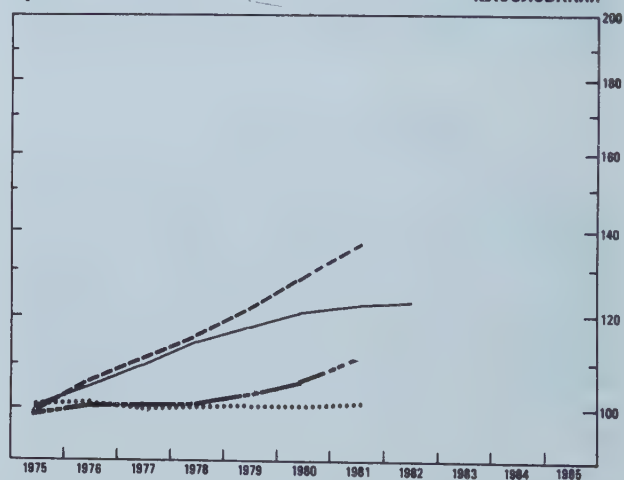


БОЛГАРИЯ

CZECHOSLOVAKIA

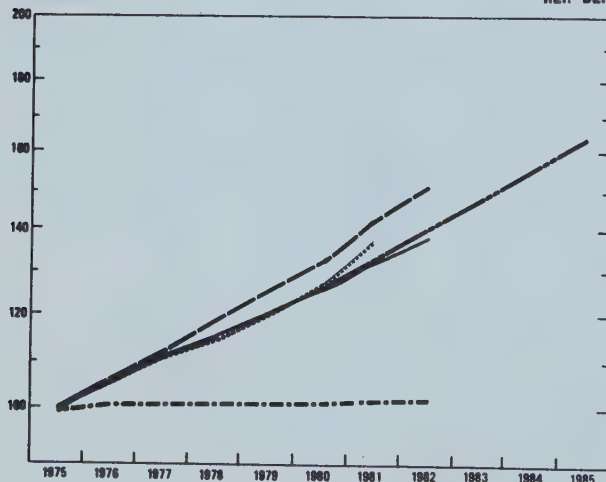


TCHÉCOSLOVAQUIE

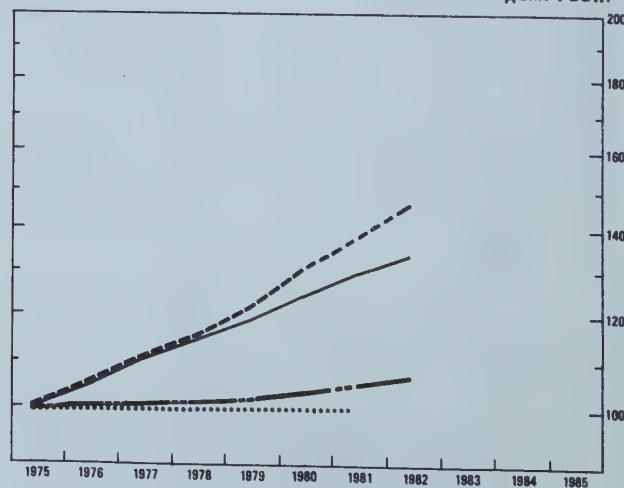


ЧЕХОСЛОВАКИЯ

GERMAN DEM. REP.



RÉP. DÉM. ALLEMANDE

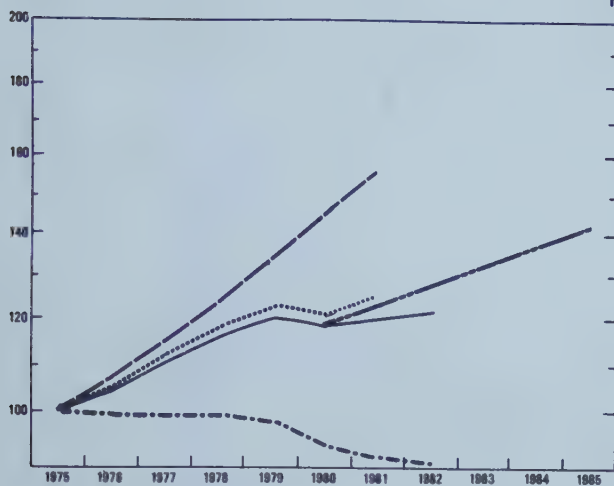


ГЕРМАНСКАЯ ДЕМ. РЕСП.

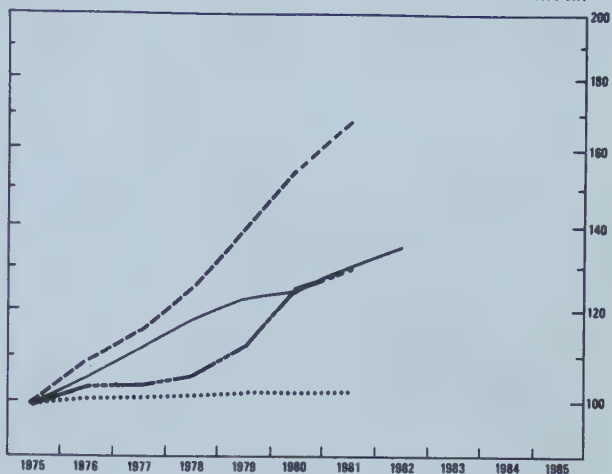
CHART 3.3.1 (continued)

CHART 3.3.2 (continued)

HUNGARY

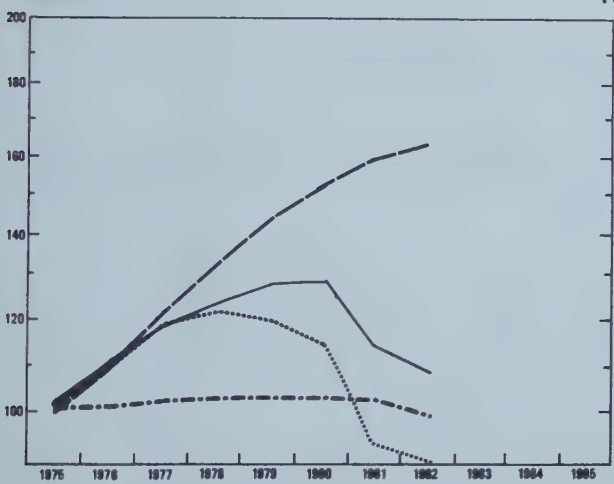


HONGRIE

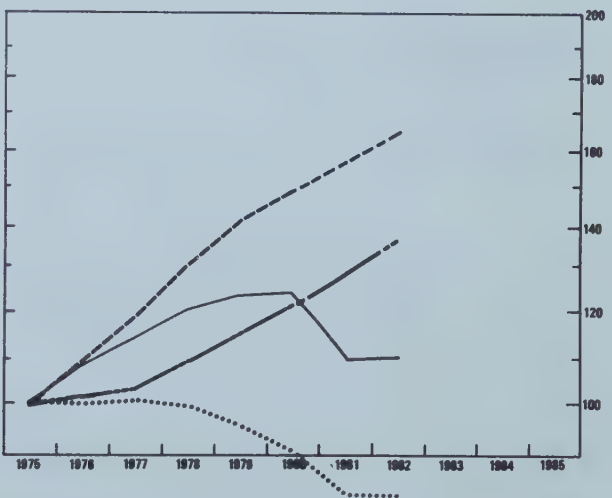


ВЕНГРИЯ

POLAND

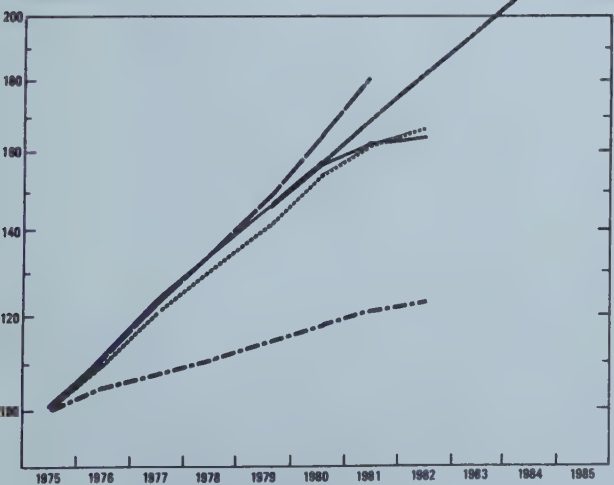


POLOGNE

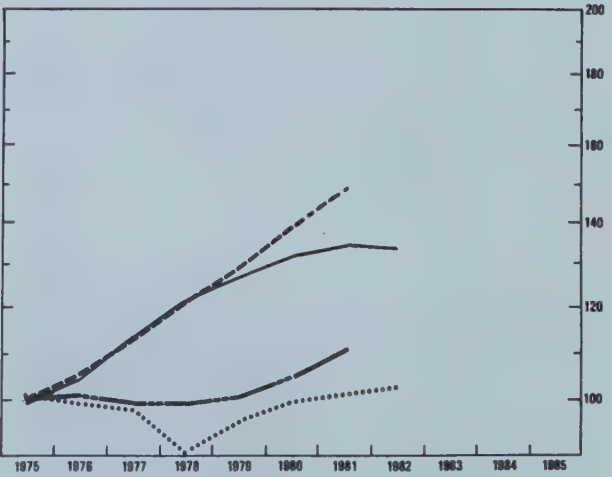


ПОЛЬША

ROMANIA



ROUMANIE



РУМУНИЯ

CHART 3.3.1 (concluded)

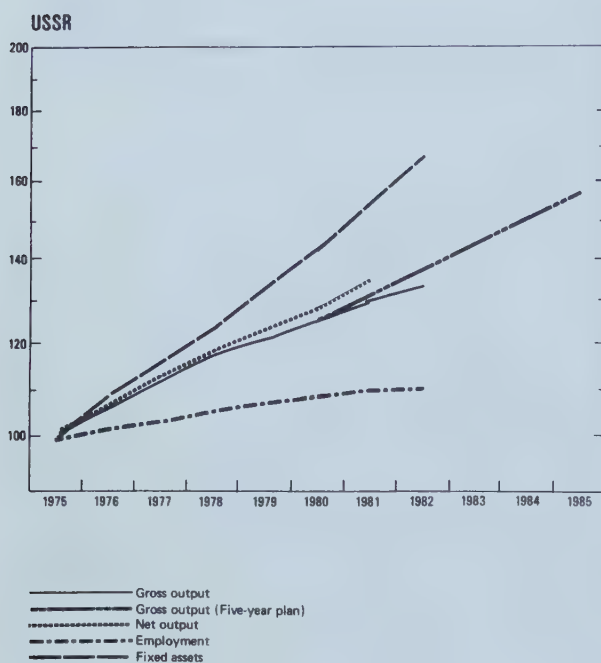


CHART 3.3.2 (concluded)

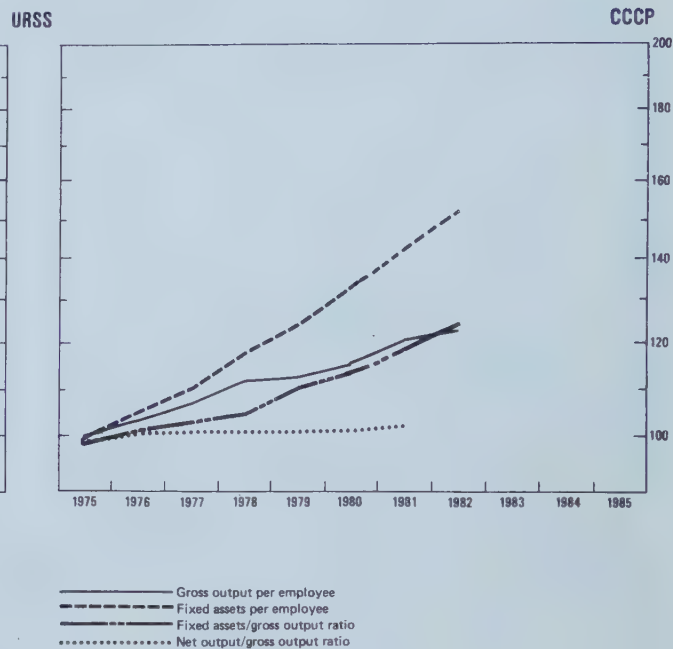


TABLE 3.3.2

Gross output and factor inputs in industry
(Average annual percentage change)

	Gross output		Employment		Fixed assets	Gross fixed capital formation
	Plan	Actual	Plan	Actual		
<i>Bulgaria</i>						
1976-1980	9.2	6.0	..	1.5	10.0	7.7
1979	7.8	5.5	1.0 ^a	1.3	8.2	-0.6
1980	6.3	4.2	1.7	1.1	10.2	17.4
1981	5.6	4.8	..	1.5	8.1	8.0
1982	4.5	4.6	..	0.8*	..	..
1983	4.8	..	..	..	..	..
1981-1985	5.1	..	..	..	..	..
<i>Czechoslovakia</i>						
1976-1980	5.7-6.0	4.7	..	0.7	6.1	6.9
1979	4.5	3.7	0.7 ^a	0.6	5.9	6.6
1980	4.0	3.5	0.8	0.7	5.9	3.6
1981	2.7	2.1	0.5	0.5	6.4	-1.4
1982	0.6*	1.0	..	0.5	..	..
1983	2.4	..	..	..	..	..
1981-1985	2.7-3.4	..	0.2 ^a	..	..	..
<i>German Democratic Republic^b</i>						
1976-1980	6.0	5.0	..	0.5	6.0	5.0
1979	5.5	4.6	0.8 ^a	0.6	5.8	3.6
1980	4.7	4.7	0.2 ^a	0.2	5.6	4.2
1981	5.0	4.7	..	0.9	5.9	1.6
1982	4.6	3.2	..	0.6*	5.0*	-11.1
1983	3.8	..	..	..	..	..
1981-1985	5.1	..	..	..	..	..

TABLE 3.3.2 (CONTINUED)

	Gross output		Employment		Fixed assets	Gross fixed capital formation
	Plan	Actual	Plan	Actual		
<i>Hungary</i>						
1976-1980	6.0	3.4	..	-1.1	8.0	4.3
1979	4.0	3.0	..	-1.2	9.5	-2.0
1980	3.5-4.0	-2.0	-0.5 ^a	-2.6	8.1	-11.4
1981	3.0-3.5	2.8	..	-1.8	6.4	-7.8
1982	2.0-2.5	2.0	..	-2.0	..	..
1983	1.0-2.0	..	..	..	..	..
1981-1985	3.5-4.0	..	..	..	..	..
<i>Poland</i>						
1976-1980	8.2-8.5	4.7	..	0.4	9.3	5.8
1979	4.9	2.7	-0.4 ^a	0.2	7.9	-15.4
1980	3.0-4.2	0.0	-0.2-1.3 ^a	0.2	5.8	-13.9
1981	..	-10.5	..	-0.1	4.0	-26.3
1982	..	-4.0*	..	-4.8*	1.8*	..
1983	3.7-4.0 ^c	..	..	..	..	..
1981-1985	..	..	..	..	..	..
<i>Romania</i>						
1976-1980	10.2-11.2	9.5	1.6-2.1	3.5	10.4	7.8
1979	11.3	8.1	1.0 ^a	3.9	9.6	7.4
1980	11.4	6.5	2.5 ^a	2.3	10.0	2.5
1981	8.1	2.6 ^d	1.0	2.4	9.1	..
1982	4.7 ^d	1.1 ^d	..	1.6*	..	..
1983	6.6 ^d	..	..	..	..	..
1981-1985	7.6	..	0.6 ^a	..	..	..
<i>Soviet Union</i>						
			^a			
1976-1980	6.3	4.5	0.8	1.6	7.6	5.3
1979	5.7	3.4	1.0	1.3	7.6	1.2
1980	4.5	3.6	0.7	1.1	7.4	3.1
1981	4.1	3.4	0.5	0.9	7.3	4.8
1982	4.7	2.8	0.6	0.7	7.3*	..
1983	3.2	..	0.3	..	..	..
1981-1985	4.7	..	0.5	..	..	..
<i>Byelorussian SSR</i>						
			^a	^a		
1976-1980	7.4	7.2	1.9	2.4	9.4	3.2
1979	6.2	6.9	1.1	2.6	9.5	-3.6
1980	5.9	6.0	1.6	1.9	9.2	-2.5
1981	4.1	5.0	1.1	1.6	9.0	5.6
1982	4.3	4.7	1.3	1.0	9.0*	..
1983	3.4	..	0.9	..	..	..
1981-1985	5.1	..	1.1	..	..	..
<i>Ukrainian SSR</i>						
			^a	^a		
1976-1980	5.9	3.9	0.7	1.6	6.8	2.7
1979	5.2	3.0	1.5	1.4	7.1	-2.6
1980	4.0	2.2	1.3	1.1	6.7	3.7
1981	3.5	2.8	..	0.8	6.0	0.1
1982	4.0	2.7	1.6	1.0	..	..
1983	2.8	..	0.8	..	..	..
1981-1985	4.2	..	1.0	..	..	..

Sources: National statistics, CMEA statistical yearbooks, plans and plan-fulfilment reports.

Note: Growth of gross fixed capital formation in 1976-1980 was calculated on the basis of the annual average during the period compared with the annual average in 1971-1975 expressed as an average annual compound rate.

^a Derived from output and productivity data.

^b Commodity production

^c Sales.

^d Marketable production.

more demanding conditions needs to be judged over the long term.

Over the medium term some slowdown in industrial growth has been inevitable. The period of transition to intensive industrial growth may last several years. Prospects for achieving an acceleration of industrial growth rates will depend to a great extent on the speed with which the required increase in the efficiency of economic development is brought about.

Industrial growth in 1981 - the first year of the five-year plan for 1981-1985 - was low by historical standards - some 2.2 per cent for the region as a whole against 3.7 per cent and 3.4 per cent in 1979 and 1980 respectively. The declining trend in aggregate industrial output growth was mainly due to the 10.5 per cent decrease in the level of output in Poland. In Czechoslovakia and Romania, industrial output growth was also slow (2.1 and 2.6 per cent respectively). In contrast, the Soviet Union reached

a 3.4 per cent increase – practically the same as in the two preceding years. Bulgaria and the German Democratic Republic recorded rises of 4.8 per cent and 4.7 per cent respectively. It is noteworthy that relatively high growth in both these countries was maintained in 1982.

Plans for 1982 in the majority of east European countries called for a further moderation in the rate of industrial progress. They also stressed the importance of balanced growth, to be brought about by harmonizing the output of individual branches with available production inputs. In this context, changes in the availability of primary energy sources were particularly important. The declining trend in the growth of primary energy production continued to be exacerbated by worsening natural conditions in the extractive industries and by reduced imports of oil in some east European countries (see sub-section (iii) below). Poor harvests in 1981 in Czechoslovakia, Hungary, Romania and the Soviet Union significantly constrained material supplies for the light and food-processing industries. The efforts to improve the balance-of-payments position led to substantial cuts in imports of raw and other material inputs. Hence industrial output growth for 1982 was slower than envisaged for the 1981–1985 period as a whole. Performance was also below the attained growth rate in 1981 in all countries.

Comparisons of planned and actual output growth suggest that industrial growth strategy for 1982 was realistic only in some countries. In Bulgaria and Czechoslovakia actual performance outstripped the planned growth rates – an actual increase of 4.6 per cent was recorded against 4.5 planned in the case of Bulgaria and 1.0 per cent against 0.6 per cent in the case of Czechoslovakia. In Hungary, a 2 per cent actual output rise equalled the lower limit of its planned output target. The German Democratic Republic did not fully meet its planned output target, but the 3.2 per cent actually registered for industry as a whole in 1982 (4.3 per cent in the case of commodity production by enterprises of the industrial ministries) was in line with the good performance of recent years. The Soviet Union envisaged industrial growth in 1982 at the level implied by the five-year plan average for 1981–1985 (4.7 per cent). The 2.8 per cent growth rate reported for industrial gross production thus represents only partial fulfilment of the original industrial output target. A more detailed analysis is given in sub-section (v) below.

Plans for 1983 embody different growth strategies. Some acceleration in industrial growth rates compared with 1982 is envisaged in Czechoslovakia, the German Democratic Republic, Poland, Romania and the Soviet Union. In Bulgaria the objective is to maintain industrial growth at the current relatively high level of roughly 4.5–5 per cent. In Hungary growth is foreseen at about the same rate as in 1982 or lower (the target rate spread of a 1–2 per cent increase reflecting a margin of uncertainty under present conditions). It is clear that policies to accelerate industrial growth have been adopted in practically all countries of the region for 1983. It is expected that these policies will continue in the final two years of the five-year plan period (1984 and 1985).

The achievement of the acceleration of industrial development on these lines will depend on overcoming certain growth-constraining factors. In eastern Europe the outcome will depend upon the attainment of planned savings of fuels, energy and raw materials and on improvements in the foreign trade sector. Higher industrial growth rates in the remaining years of the 1981–1985 period will otherwise tend to expand needs for increasingly scarce and costly fuels, energy and raw materials at a time when the terms of trade for east

European countries are deteriorating. Thus the decisive element will be an acceleration of technical progress and international co-operation, together with implementation of appropriate changes in the system of planning and management in line with the conditions of internal and external economic development.

3.3(ii) Factor inputs and efficiency trends

In all centrally planned economies the intensification of industrial growth is considered as the only way of achieving further industrial expansion, as the sources of extensive growth have been exhausted. Intensification is usually explained as a process whereby total productivity gains provide an increasing contribution to output growth.

It is difficult to measure the size and share of the contribution of intensification to production growth. Results depend on the assumptions and methods used. Any comprehensive approach however requires analysis of the main production inputs of labour, fixed assets and material inputs, and measurement of their effectiveness.

Labour productivity growth – derived from industrial output and employment growth – rose in the region at an average annual rate of 3.4 per cent during 1976–1980. The share of labour productivity in the growth of industrial output of the region reached 84 per cent on the basis of an unweighted average. The share of industrial output growth accounted for by the growth in labour productivity increased, particularly in the countries where the rate of growth of industrial employment declined.²³³ Further increases in the share of labour productivity in output growth are expected in five-year plans for 1981–1985. This trend is related to the limited possibilities for increasing the supply of labour to industry, since where the growth of employment in industry is zero or negligible, labour productivity growth will necessarily coincide with the growth of industrial output and contribute virtually 100 per cent of the output growth attained.

In the first two years of the five-year plans for 1981–1985 a slowdown in labour productivity growth was recorded against 1976–1980 in all countries of the region (table 3.3.3 and chart 3.3.2). In the region as a whole labour productivity increased by 1.5 per cent in 1981 against 2.5 and 2.4 per cent in 1979 and 1980 respectively. In 1982 the declining trend continued in Czechoslovakia, the German Democratic Republic, Hungary, Romania and the Soviet Union. Decelerating productivity growth rates are closely linked with many economic processes and phenomena which occurred in the centrally planned economies in recent years – some of which were mentioned in sub-section (i) above. Analysis of the causes of recent trends in labour productivity growth is complex as not all of them are amenable to statistical treatment.

Various factors influencing labour productivity growth were reported in the countries concerned. One group consists of factors connected with constraints on the supply side of output growth. An important role within this group of factors was played by the limited supplies of energy, raw and other material inputs, and the slowdown in the growth of employment. Restrictive investment policies which directly affected output growth in the main investment supply branches (the construction sector, the construction materials and engineering industries) acted on the demand side. Bad crops in some countries affected output growth in the

²³³ See *Economic Survey of Europe in 1981*, UN, New York 1982, p.220.

TABLE 3.3.3

Productivity indicators in industry
(Average annual percentage change)

	Labour productivity ^a	Capital intensity ^b	Capital productivity ^c	Total productivity ^d
Bulgaria				
1976-1980	4.4	8.4	-3.6	2.0
1979	4.1	6.8	-2.5	2.1
1980	3.1	9.0	-5.4	0.5
1981	3.2	6.5	-3.0	1.3
1982	3.8	..	..	..
Czechoslovakia				
1976-1980	4.0	5.3	-1.5	2.3
1979	3.1	5.3	-2.1	1.5
1980	2.8	5.2	-2.5	1.2
1981	1.6	5.9	-4.0	-0.1
1982	0.5	..	..	..
German Dem. Rep.				
1976-1980	4.5	5.4	-1.0	2.8
1979	4.0	5.1	-0.9	2.5
1980	4.5	5.4	-0.8	2.9
1981	3.8	5.0	-0.8	2.4
1982	2.6*	4.5*	-1.8*	1.3*
Hungary				
1976-1980	4.6	9.2	-4.3	1.9
1979	4.3	11.3	-6.0	1.2
1980	0.6	10.9	-9.4	-2.4
1981	4.7	8.3	-3.5	2.2
1982	4.1	..	..	..
Poland				
1976-1980	4.3	8.9	-4.2	1.7
1979	2.6	7.8	-4.9	0.3
1980	-0.2	5.6	-5.5	-1.7
1981	-10.4	4.1	-13.9	-11.5
1982	0.8*	6.9*	-5.7*	-1.1*
Romania				
1976-1980	5.8	6.7	-0.8	3.8
1979	3.9	5.5	-1.5	2.9
1980	4.1	7.5	-3.2	1.8
1981	0.2	6.5	-6.0	0.0
1982	-0.5	..	..	..
Soviet Union				
1976-1980	2.8	5.9	-2.9	1.1
1979	2.2	6.1	-3.9	0.4
1980	2.5	6.0	-3.3	0.8
1981	2.5	6.4	-3.7	0.6
1982	2.1	6.5*	-4.2*	0.2*

Sources: As for table 3.3.1.

^a Gross output per employee.^b Fixed assets per employee.^c Gross output - fixed assets ratio.^d The figures for total productivity were obtained by weighting the growth rates of labour productivity and capital productivity in the proportions of 0.7 in the case of the former and 0.3 in the case of the latter. The relationship approximates that between the wage fund, imputed capital charge and an allowance for depreciation of fixed assets.

light and food-processing industries. Another group of factors are those influencing the intensification process in industry, namely scientific and technical progress, labour organization, structural change, shifts in the international division of labour and changes in the system of planning and management. As stated in many national documents, the progress of transforming industry along the lines of an intensive path is still slow and does not correspond to the requirements of the present stage of economic development. These questions are taken up in more detail in section 3.6.

The upturn in industrial output growth rates envisaged in the plans for 1983 is based on the assumption of some acceleration in labour productivity. Five-year plans for 1981-1985, as well as measures announced or introduced

in the systems of planning and management, also call for a faster increase in labour productivity. Numerous policy responses to labour productivity issues have been reported in recent years - notably in the field of scientific and technical progress, in the organization and utilization of labour, in planning and incentive systems and in international specialization and co-operation.

The share of industrial output growth accounted for by the growth in labour productivity has tended to increase during 1979-1981 in the Soviet Union and Hungary. The exception was in Hungary in 1980, when an absolute decrease in industrial output was recorded. The opposite tendency prevailed in Romania, Czechoslovakia and the German Democratic Republic (except in 1980) (table 3.3.4).

Under the conditions of declining industrial output growth rates, the percentage share of labour productivity in the growth of industrial output becomes more sensitive to changes in industrial employment. The general tendency towards declining growth rates in industrial employment in the centrally planned economies reflects mainly demographic changes and also shifts in employment towards the non-material sphere. For the region as a whole, industrial employment growth rates declined from an average 1.4 per cent in 1976-1980 to 1.2 per cent in 1979, 1.0 per cent in 1980 and only 0.7 per cent in 1981. At the same time, employment policy in industry varies from country to country. The highest growth rates in industrial employment were recorded in Romania, followed by Bulgaria and the Soviet Union. In Czechoslovakia and the German Democratic Republic the annual increase of industrial employment moved within a range of 0.5-0.9 per cent. Hungary applies a flexible employment policy, industrial employment having as a result substantially decreased in absolute terms (table 3.3.2).

Capital productivity - measured in terms of gross industrial output per unit of industrial fixed assets - recorded a downward trend during 1976-1980 (table 3.3.3). This continued into 1981. Data for 1982 are not available for most countries but in the German Democratic Republic and the Soviet Union a further decline in capital productivity in 1982 was reported.

The declining trend in capital productivity is closely linked with the factors described earlier, and reflects changes in the trend of output growth on one hand, and factors influencing industrial fixed asset growth on the other. The slowdown in the rate of growth of industrial output was accompanied by growth of industrial fixed assets at faster rates than industrial output. Hence capital productivity declined. The high rate of growth of

TABLE 3.3.4

Contribution of labour productivity to the growth of industrial output
(Percentage shares)

	1976-1980	1979	1980	1981
Bulgaria	73	74	74	67
Czechoslovakia	85	84	80	76
German Democratic Republic	90	87	96	81
Hungary	135	133	-30	168
Poland	91	96	..	99
Romania	61	49	63	18
Soviet Union	62	65	69	73

Sources: As for table 3.3.1.

Note: Due to differences in coverage and methodology applied, figures in this table may differ slightly from officially reported data. When industrial employment decreases in absolute terms the proportion of output growth accounted for by rising labour productivity is more than 100 per cent.

industrial fixed assets recorded (except in Poland – see table 3.3.2) was due to the investment boom in the mid-1970s. Nevertheless, the substantial decline in industrial investments at the end of the 1970s and the beginning of the 1980s, which was very pronounced in Hungary and Poland and, in 1982 also in the German Democratic Republic, will eventually result in a gradual deceleration in industrial fixed asset growth rates. This, together with the expected acceleration of industrial growth, should improve capital productivity performance.

Other factors also contributed to the declining trend in capital productivity. These include efforts to substitute scarce labour by fixed assets, higher environmental protection expenditures, the higher cost of more technology-intensive fixed assets, structural changes in favour of more capital-intensive branches, apparently low write-off rates of obsolete fixed assets, etc. The reported under-utilization of capacities in some industrial branches (notably the energy- and material-intensive metallurgy and chemical branches) indicates that capital was not generally a constraining factor on output growth.

A number of measures have been taken to reverse negative trends in capital productivity, in line with the general strategy of intensification proclaimed in the five-year plans for 1981–1985. The substantially lower rates of growth of industrial investments scheduled for 1981–1985 have already been mentioned. The faster write-off of obsolete equipment, and incentive systems to encourage fuller utilization of fixed assets will be necessary if a reversal of apparent trends during the 1970s is to be achieved.

The material intensity of industrial production, judged in many centrally planned economies as excessive by international standards, has become a primary object of policy makers' attention following the changes in the availability of energy and raw materials noted earlier. It is assumed by all countries that acceleration of industrial production growth could be attained by reducing energy and material consumption per unit of industrial output and hence easing the balance-of-payments constraints. Important decisions in this field were embodied in the five-year plans for 1981–1985 and further action implemented or announced in 1981 and 1982. In particular, rationalization programmes calling for substantial economies in fuel, energy, raw material and other material inputs were elaborated and approved in most countries of eastern Europe and in the Soviet Union.²³⁴ Results in the first two years of the 1980s can generally be judged as significant. Important savings in the consumption of fuel, energy and metals were reported by the countries concerned. The leading position in this respect belongs to the German Democratic Republic, where relatively rapid industrial growth was achieved with virtually no growth in primary energy consumption. In this country inputs of the main types of energy, raw and other materials per unit of industrial output fell by 5 per cent in 1981 and by 6 per cent in 1982.

Methods of measuring changes in material intensity in the industry as a whole are not wholly adequate. Some estimates of trends in this regard may be obtained by comparing the rates of growth of gross and net industrial output, since the difference between the two indicates roughly the efficiency in utilization of material inputs over time. Higher growth rates of net output relative to gross output can be interpreted as a reduction in material inputs per unit of gross output. However, this indicator is only a rough measure, as higher growth rates of net output relative to gross output may result not only from real savings in material inputs, but also from other factors such as changes in the degree of co-operation

TABLE 3.3.5

Ratio of net to gross industrial output

	Gross output	Net output	Ratio of net to gross industrial output growth
	Annual percentage change		
<i>Bulgaria</i>			
1976-1980	6.0	6.8	1.13
1979	5.5	5.4	0.98
1980	4.2	0.4	0.09
1981	4.8	5.6	1.17
<i>Czechoslovakia^a</i>			
1976-1980	3.5	3.5	1.00
1979	3.4	3.5	1.03
1980	2.1	2.5	1.19
1981	0.1	1.1	11.00
<i>German Dem. Rep.^a</i>			
1976-1980	4.9	5.0	1.02
1979	4.8	4.7	0.98
1980	4.7	5.5	1.17
1981	5.1	5.5	1.08
<i>Hungary</i>			
1976-1980	3.4	3.8	1.12
1979	3.0	4.3	1.43
1980	-2.1	-2.2	1.05
1981	2.8	2.9*	1.04
<i>Poland</i>			
1976-1980	4.7	2.6	0.55
1979	2.7	-1.7	-0.63
1980	0.0	-4.1	..
1981	-10.5	-16.0	1.52
<i>Romania</i>			
1976-1980	9.5	8.9	0.94
1979	8.0	7.6	0.95
1980	6.1	8.6	1.41
1981	2.6	4.1	1.58
<i>Soviet Union</i>			
1976-1980	4.5	4.9	1.09
1979	3.4	3.7	1.09
1980	3.6	3.8	1.06
1981	3.4	3.8	1.12

Sources: As for table 3.3.1.

^a Based on national accounts statistics.

among enterprises and structural shifts in the pattern of output. With these limitations, table 3.3.5 indicates progressive reductions in the material input intensity of production in some countries of the region.

Adjustment to the profound changes which occurred in the availability of primary energy sources in east European countries, and the achievement of the task of covering domestic consumption needs at sustainable levels of imports is a long-term process. The process started at the beginning of the 1980s and will have to be implemented even more strictly in the remaining years of the 1981–1985 plan period. This problem affects all aspects of economic life and needs to be solved not only by austerity measures but also in a positive way through technical advance and innovation, appropriate structural change and closer international co-operation – especially among the CMEA countries. A long-term target-oriented programme of international co-operation in the field of fuels, energy and raw materials was approved at the 35th session of the CMEA held in Sofia in 1981, while at its 36th session in Budapest in 1982 a programme to initiate production of resource-saving machinery and equipment and to ensure the optimum location of energy-intensive production plant was agreed.

²³⁴ *Op.cit.*, p.224.

3.3(iii) Energy supply and consumption

The energy situation in the centrally planned economies during 1976–1980 was characterized by an average annual growth of primary energy production at a rate of 3.7 per cent, with rather big differences among individual countries (table 3.3.6).

TABLE 3.3.6

Primary energy production^a
(Average annual percentage change)

	1976–1980	1979	1980	1981
Bulgaria . . .	2.3	9.9	5.6	..
Czechoslovakia .	0.7	–0.2	–1.4	–1.3
German Democratic Republic . .	1.1	1.2	1.0	..
Hungary . . .	1.6	–4.4	–1.0	–0.3
Poland . . .	2.0	3.2	–4.0	–15.2
Romania . . .	0.5	–2.9	3.0	..
Soviet Union . .	4.4	3.4	2.9	2.2
Eastern Europe .	1.4	1.1	–1.2	..
Eastern Europe and the Soviet Union	3.7	2.9	2.0	..

Sources: Yearbooks of World Energy Statistics and national statistics.

^a In coal equivalent up to 1980 and in various national units in 1981.

Substantially higher growth rates of primary energy production in the Soviet Union compared with the east European countries increased the Soviet share of the total from 77.5 per cent in 1975 to 79.9 per cent in 1980. This was mainly due to increasing Soviet oil and gas output.

A declining trend in primary energy production growth became evident in recent years, caused mainly by the less favourable extraction conditions. The production of fuels and energy has become more costly due to the depletion of easily accessible deposits, increasing working depths in mines, environmental constraints and the growing distance between new deposits and the main consuming areas. Some notion of the importance of this problem may be obtained from the increasing capital requirements of the energy sector. Investment expenditures for the development of the fuel and energy base are increasing in all the centrally planned economies. Their share in total industrial investment in some cases is now more than 30 per cent.

The slow down of energy production growth was not in all cases accompanied by adequate reductions in energy consumption growth. In the Soviet Union the primary energy consumption growth rates are substantially lower than primary energy production growth rates (annual averages of 3.2 per cent against 4.4 per cent respectively in 1976–1980). In eastern Europe the opposite tendency prevails (3.3 per cent average annual consumption growth against 1.4 per cent production growth in the same period). The gap between primary energy production and consumption in east European countries was estimated at 128.5 million tonnes of coal equivalent in 1980.²³⁵ This gap was covered predominantly by imports of energy from the Soviet Union. Soviet supplies in 1980 accounted for 80 per cent of east European countries' imports of oil and oil products and 99 per cent of natural gas. Taking into account developments on the world market, notably the big post – 1973 price increases for

imported fuels and energy, a far slower increase in the total supply of energy from domestic production and imports may be expected in the 1980s than in the previous decade. In fact, the availability of fuels and energy has become one of the crucial problems of the overall economic development of the east European countries.

The close interdependence between energy consumption and economic growth, strongly suggests that increasingly scarce and costly energy supplies contributed to the declining trends in economic and industrial growth noted earlier. The energy intensity of economic growth indicates the degree to which national economies have adapted to changes in the availability of energy sources (table 3.3.7).

TABLE 3.3.7

Energy intensity of economic growth
(Ratio of annual change in energy consumption to annual change in NMP)

	1976–1980	1978	1979	1980
Bulgaria . . .	0.84	1.02	0.85	1.79
Czechoslovakia .	0.65	0.59	0.90	0.12
German Dem. Rep.	0.56	0.53	0.63	0.69
Hungary . . .	1.21	1.62	0.58	–4.36
Poland . . .	2.50	1.53	–1.52	..
Romania . . .	0.56	0.92	0.26	1.31
Soviet Union . .	0.74	0.29	1.66	0.54

Sources: Yearbook of World Energy Statistics, various issues of national statistics.

The relationship between energy consumption and NMP growth is complex and is affected by various factors, not all of which are amenable to statistical analysis. Fluctuation in the ratios of energy consumption growth to NMP growth in almost all centrally planned economies shows that the adjustment process was uneven. According to national reports, some improvements were made in the course of 1981 and 1982 and savings of fuels and energy increased. In fact economic growth in the majority of east European countries in 1982 was achieved in spite of significant cuts in oil imports.

An essential feature of development strategies for 1981–1985 under these conditions is higher efficiency in the utilization of fuels and energy. All five-year plans in the centrally planned economies call for such economies on a substantial scale. The energy intensity of production in the centrally planned economies is high by international standards. A rather big potential for making further savings thus exists. All countries of the region have published programmes to restrain fuel and energy consumption. In the German Democratic Republic savings in energy consumption are expected to amount to some 70 million tonnes of brown coal equivalent. The rationalization programme in Czechoslovakia envisages savings of roughly 12 million tonnes of coal equivalent by 1985. The Soviet Union's five-year plan provides for the saving of 200 million tonnes of coal equivalent. Additionally, the drafting of the Soviet long-term energy programme is nearly complete. It includes the modernization of the oil, gas, petrochemical and coal industries, expansion of energy production and also savings of energy throughout the national economy. In Romania the energy programme stipulates increases in energy production, extension and improvement of the national grid and further reduction of energy consumption. The objective is to make Romania self-sufficient in energy by

²³⁵ Calculated on the basis of Yearbook of World Energy Statistics, UN, New York, 1981, pp. 66, 70, 74, 78, 92.

the end of the present decade. The programme provides for a growth in electricity generation from 68.9 billion kWh in 1982, to 82.5 billion kWh in 1985 and to 110 billion kWh in 1990. The construction of nuclear power stations will be accelerated. Coal output is planned to grow from 37.9 million tonnes in 1982 to 87 million tonnes in 1985. Plans to increase crude oil and gas production in excess of the five-year plan provisions were also approved.

International (intra-CMEA) co-operation in the energy sector, based on a long-term target oriented programme, covers foreign trade in energy, and also the implementation of large-scale energy projects, a common R & D effort, an integrated energy transmission infrastructure, common energy conservation policies and the optimum location of energy-intensive production. According to this programme, CMEA countries will reshape their energy balances on the basis of the accelerated development of nuclear power and wider utilization of solid fuels. In 1981 the aggregate capacity of nuclear plants in the six east European countries amounted to 4,000 MW; by the end of the decade it is intended to increase this capacity to 37,000 MW. The corresponding figures for the Soviet Union are 10,500 MW in 1980 and 90,000 MW in 1990. During 1981–1985 the increment in the Soviet Union will be 24,000–25,000 MW.²³⁶ A multilateral agreement provides for the production of equipment for atomic power plants in the framework of "Interatominstrument" – an international organization of CMEA countries. In solving CMEA countries' energy problems, increased deliveries of natural gas by means of gas pipelines from Siberia will also play an important role.

The solution of energy problems is closely linked with the introduction of energy-saving machinery and technologies. This includes application of low energy-intensive and waste-free technologies, replacement and modernization of outdated equipment, utilization of secondary sources of energy and low-potential heat.

Developments in 1982 and plans for 1983 show increased attention to energy problems in all the countries of the region. In some of them it was explicitly stated that energy is among the most important problems to be resolved.²³⁷ In *Bulgaria*, electricity production increased by 9.4 per cent and coal extraction by 8.5 per cent in 1982. Production of electricity and heating is to increase by 5.2 per cent in 1983 – a rate of growth above the average growth rate for industry as a whole (4.8 per cent). The planned increase in electricity and heating production will come mainly from nuclear power stations and from thermal power stations based on local coal.

In *Czechoslovakia*, extraction of coal in 1982 reached 124.6 million tonnes, 1.4 per cent more than in 1981 and 0.5 per cent above the annual plan for 1982. Production of electricity rose by 1.6 per cent to 74.7 billion kWh. Plans for 1983 call for coal extraction at the same level as in 1982. Electricity generation is to rise by 1 per cent. The period of thermal power station construction is finished, and the bulk of further increases in electricity generation will come from nuclear power stations. Primary energy consumption is planned at the 1980 level. Savings of fuels and energy are to rise to 2.5 million tonnes of coal equivalent annually. A new system of public checks on fuel and energy consumption has been decided to ensure the greatest possible economy in use.

²³⁶ *Svět hospodářství*, No. 98, 19 August 1982, p.1.

²³⁷ "Strains in the energy balance are one of the most serious aspects of economic development, where real conditions have proved to be substantially more demanding than our original assumptions". S. Potáček: "Hlavní úkoly hospodářského a sociálního rozvoje na rok 1983" (Main targets of economic and social development in 1983), *Plánované hospodářství*, No. 1, 1983, p.2.

In the *German Democratic Republic*, coal extraction in 1982 increased by 3.5 per cent to 276 million tonnes. Electricity generation increased by 2.2 per cent. In spite of this increase in indigenous energy production, total primary energy consumption remained at the same level as in 1980 – mainly due to a 10 per cent decrease in oil imports from the Soviet Union. The German Democratic Republic introduced measures to reduce oil consumption for heating and in public transport in order to make available oil for chemical industry processing. Plans for 1983 envisage a 3.7 per cent growth of commodity production by the Ministry of Coal and Energy. Further measures will be introduced to save fuel and energy, specifically to reduce consumption of energy per unit of output by 4.2 per cent. Coal extraction in 1983 is to increase by 0.7 per cent to 278 million tonnes and electricity production by 2.6 per cent to 105.5 billion kWh.

In *Hungary*, the mining industry²³⁸ recorded a 1.4 per cent increase in output compared with 1981, after declines in production in 1980 and 1981. However, the volume of output in this branch is still below its 1977 level. Electricity and heating output declined by 0.6 per cent over 1981 after good performance in the preceding two years (3.3 per cent and 3.4 per cent in 1980 and 1981 respectively). Restrictions on imports of energy necessitated strict energy saving measures. Plans for 1983 call for coal extraction of 26 million tonnes – the same level as in 1980, and oil production of 2 million tonnes – also as in preceding years. Natural gas production of 6.8 billion cu.m. is expected to be 13.3 per cent higher than attained in 1981. It is envisaged that, as in Czechoslovakia and the German Democratic Republic, total energy consumption in 1983 will remain constant.

In *Poland*, hard coal production results in 1982 improved notably. Some 189.3 million tonnes of hard coal were extracted – about 26 million tonnes (16 per cent) more than in 1981. The plan for 1983 sets a hard coal extraction target at the 1982 output level, while electricity production will increase by 3.9 per cent. Almost 14 per cent of total investments should be allocated to the fuel and energy industry.

In *Romania*, electricity generation in 1982 decreased by 1.7 per cent, coal extraction increased by 2.7 per cent, oil production by 0.8 per cent and gas production decreased by 7.4 per cent. Some shortfalls in energy supplies were mentioned in connection with the evaluation of economic performance in 1982. The plan for 1983 assumes the extraction of 52 million tonnes of coal – 37.2 per cent more than in 1982. Oil production is targeted at 13.5 million tonnes (15.4 per cent more than in 1982). Natural gas production and electricity generation targets are 33 billion cu.m., and 76.8 billion kWh which represent rises of 1.5 per cent and 11.5 per cent, respectively, over 1982.

In the *Soviet Union*, performance in the energy sector improved in 1982. Natural gas production increased by 8 per cent, coal extraction by 2 per cent and electricity generation by 3 per cent. Demanding production targets were included in the plan for 1983. Coal extraction is to reach 723 million tonnes – some 0.3 per cent higher than in 1982. New pits and opencast mines will be put into operation mainly in Siberia and the Far East. It is planned to extract 619 million tonnes of oil and gas condensate, 1 per cent more than in 1982; some 60 per cent of this is expected from western Siberia. Natural gas production is planned to reach 529 billion cu.m. or 5.6 per cent more than in 1982. Work on the Urengoy – Uzhgorod gas export pipeline is to be completed in the last quarter of 1983 and is expected to come into

²³⁸ Including coal, oil, gas, bauxite and other ore extraction.

operation in 1984. Electricity generation is targeted at 1,405 billion kWh – an increase of 3.3 per cent over 1982. Two-thirds of the planned increase is expected from nuclear and hydro-power stations. As regards thermal stations, priority will be given to projects in Siberia, Kazakhstan and the Far East.

3.3(iv) Industrial branch developments

Industrial branch developments in the first two years of the five-year plan period for 1981–1985 were affected by various factors both on the supply and on the demand sides. On the supply side, decelerating trends in domestic production of energy and raw materials, together with the limited possibilities for obtaining imported substitutes, contributed to the slowdown registered in such energy and material intensive branches as metallurgy and chemicals.

In *metallurgy* a decline relative to growth rates in 1976–1980 was recorded in all the countries of the region except Bulgaria and the German Democratic Republic in 1981 (table 3.3.8). The stress was laid on raising the share of high quality steel in total output and broadening the size and specification ranges of rolled products.

Expansion of the *chemical industry* was affected mainly by oil extraction performance and lower imports, and a declining trend in the rate of growth of output was recorded in 1981 and 1982 in all east European countries. Only in the Soviet Union did the growth rates of chemical production rise above the average for industry as a whole.

Structural changes envisaged or implemented within the branch were given priority over expansion in the volume of output. A general trend is apparent to increase the manufacture of plastics and synthetic resins, chemical fibres, pharmaceuticals and cosmetics. For 1983, only Bulgaria, Romania and the Soviet Union expect chemical output to grow at rates higher than industry as a whole.

Engineering remains among the fastest growing industrial branches, reflecting its role as the most important source of machinery and equipment required for technical innovation (table 3.3.9). During 1981 and 1982 engineering maintained its leading position in all the centrally planned economies. Nevertheless, a slowdown in growth rates against 1976–1980 occurred in all countries but the German Democratic Republic and Hungary. The pattern of demand contributed to these trends – notably declines in investment and diminished export possibilities. The five-year plans for 1981–1985 laid down faster growth rates for engineering than for industry as a whole (table 3.3.8) and this is confirmed in the plans for 1983. A considerable role in the expansion of engineering is expected to be played by international co-operation, notably among CMEA countries. It was decided to broaden co-operation in electronics – in particular in the production and application of micro-processors, communications and electronic equipment. Attention is to be devoted to the re-tooling of the national economies. The production of resource-saving machines and equipment and closer co-operation in producing micro-processors, industrial robots and components for computer systems has been launched. Programmes for the development of energy equipment – notably, equipment for atomic power stations, automatic pumps for gas transportation, etc. have already been implemented.

Development of the *light and the food industries* in the course of 1981 and 1982 was characterized by considerable variation among individual countries of the region (table 3.3.8). This reflected uneven agricultural output performance and different possibilities of importing the

necessary raw and other material inputs. The five-year plans for 1981–1985 call for growth rates in closer correspondence with increases in agricultural production, and in conformity with policies towards a higher degree of domestic self-sufficiency. A long-term target-oriented programme of international (intra-CMEA) co-operation in this field has been agreed. It is based on a broadening of consumer-goods trade among CMEA member countries. Improvements are envisaged in the quality of products and in the assortment of consumer-goods production.

The tendency towards faster growth rates of *producer goods* which prevailed up to the late 1970s has been modified in 1981 in favour of the production of *consumer goods*. This reflects the increasing attention paid to satisfying consumer demand. The growth rates of the production of consumer goods in 1981 are thus in some countries approaching and even exceeding growth rates of the producer goods sector (table 3.3.10). The shift in the distribution of national income in favour of consumption, together with the savings envisaged in the sphere of intermediate consumption, will probably intensify this tendency in the future.

3.3(v) Main characteristics of industrial development by country

Industrial policy in *Bulgaria* in 1981–1985 is centred upon maintaining a relatively high rate of industrial growth. The target of 5.1 per cent is quite high in conditions of limited material supplies – particularly energy – the deteriorating terms of trade and labour scarcity. Priority development is envisaged for engineering and chemicals (average annual increases of 8.5 per cent and 7.7 per cent respectively).

This industrial growth strategy was largely maintained in the course of the first two years of the five-year plan period. Industrial growth recorded annual increases of 4.8 per cent in 1981 and 4.6 per cent in 1982, which were the highest in the region. Above-average growth rates in 1982 were realized in engineering (8.7 per cent) and electricity and heating (6.6 per cent). Planned production targets were not met in the chemical industry (1.3 per cent actual increase against a planned 7.7 per cent) and in ferrous metallurgy (a 2.4 per cent actual increase against a planned 5.4 per cent).

According to national sources, material consumption in industry was reduced by more than planned. Industrial labour productivity increased by 3.8 per cent. Its share in the growth of industrial output reached 78 per cent – a marked increase compared with preceding years (table 3.3.4).

The plan for 1983 provides for the maintenance of industrial production growth at approximately the rates achieved in the two preceding years – 4.8 per cent, which is slightly below the average projected for 1981–1985. In accordance with industrial strategy for 1981–1985, high priority in 1983 is given to chemical industry and engineering (increases of 9.7 per cent and 9.1 per cent respectively). Production of electricity is to grow by 5.2 per cent, ferrous metallurgy by 6.3 per cent, light industries by 3.6 per cent and food-processing by 4.5 per cent.

Considerable attention is devoted to scientific and technical progress. Programmes for automation, the introduction of electronics and more effective utilization of material resources were elaborated. In non-ferrous metallurgy, new technologies are to be introduced for the complex use of raw materials and the expansion of local raw material sources. High rates of growth are laid down

TABLE 3.3.8

Gross output by major branches
(Annual percentage change)

	Electricity and heating	Fuel	Ferrous metallurgy	Non- ferrous metallurgy	Engineering and metal working	Chemicals and rubber	Construc- tion materials	Glass and china	Wood and wood processing	Pulp and paper	Textiles	Clothing	Leather and fur	Food process- ing
<i>Bulgaria</i>														
1976-1980	7.5	5.6	6.9	..	9.4	8.9	8.4	3.2	2.4	5.3	4.9	1.4	4.5	4.1
1979	5.2	11.1	1.9	..	5.5	9.1	7.0	6.9	2.3	2.4	5.4	1.9	0.3	5.6
1980	10.8	5.6	2.0	..	6.4	11.1	4.4	4.5	4.3	5.5	3.6	5.9	6.8	-2.2
1981	6.7	..	6.3	..	7.2	4.2	3.8	2.2	4.2	7.5	5.7	5.2	7.3	8.4
1982	6.6	..	2.4	..	8.7	1.3	0.6	..	3.6	..	..	3.9	..	4.0
Plan 1981-1985	5.4	..	5.4	..	8.5	7.7	..	..	4.6	..	..	..	..	3.7
<i>Czechoslovakia</i>														
1976-1980	4.8	2.6	2.8	3.1	6.7	5.8	4.4	5.2	5.3	4.3	3.5	3.4	3.3	2.7
1979	-1.1	2.5	1.6	3.1	6.5	3.3	2.5	4.7	4.6	2.8	4.1	3.9	3.0	1.8
1980	7.5	-1.0	1.6	1.0	4.6	4.8	4.0	3.0	4.6	3.2	3.7	2.9	3.0	1.8
1981	1.1	-0.5	1.0	-0.3	4.2	1.7	1.8	2.1	1.2	2.0	2.7	2.4	1.9	1.3
1982	1.6	1.4	..	-0.4	2.9	-0.3	-1.5	..	3.5	4.0	..	1.6	..	-0.8
Plan 1981-1985	..	..	..	..	5.1-5.9	1.4	..	..	4.1-4.6	..	2.3-2.8	..	..	..
<i>German Dem. Rep.</i>														
1976-1980	5.9	3.5	3.8	4.2	7.0	4.9	2.5	5.4	4.2	4.5	3.9	3.2	4.7	2.7
1979	6.5	2.9	2.5	1.3	7.2	4.0	-0.6	4.8	3.0	3.4	2.7	4.4	4.5	2.8
1980	3.0	5.0	3.1	3.1	7.8	3.3	-0.6	4.5	0.0	4.6	3.3	4.3	4.3	2.1
1981	3.0	2.7	6.0	7.7	7.8	3.7	-0.6	5.4	1.1	1.9	2.6	0.7	3.6	2.0
1982	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Plan 1981-1985	..	..	..	..	..	..	..	..	..	..	..	..	..	..
<i>Hungary</i>														
1976-1980	6.0	0.6	1.6	..	3.3	6.5	4.3	2.1	3.3	4.2	2.0	2.5	1.8	3.4
1979	1.3	0.9	1.9	..	3.7	6.1	3.9	0.4	3.2	2.6	-0.6	1.4	-4.5	2.6
1980	3.3	-5.2	-4.1	..	-5.7	-2.1	1.5	0.0	-2.0	0.8	3.2	8.4	-11.1	2.5
1981	3.4	-2.8	-1.6	..	5.7	3.1	0.2	..	-1.4	4.8	2.2	3.7	5.3	3.0
1982	-0.6	1.4	0.8	..	3.7	1.8	0.9	..	..	..	..	..	..	4.4
Plan 1981-1985	..	..	..	..	..	..	..	..	..	..	..	..	..	..
<i>Poland</i>														
1976-1980	5.4	2.5	3.2	3.6	7.0	4.3	1.2	9.9	4.8	1.7	3.0	3.7	4.2	2.4
1979	2.1	2.2	-0.4	0.1	5.7	2.3	-4.6	8.5	-3.9	-7.4	-1.1	-1.5	3.6	2.0
1980	5.4	-3.3	0.3	-0.1	0.3	0.4	-0.9	4.9	2.4	4.0	-1.0	3.6	3.2	-2.8
1981	-6.9	-22.5	-17.6	-4.8	-12.0	-11.4	-17.6	-6.4	-10.5	-12.5	-12.7	-5.2	-8.9	-8.6
1982	7.0*	..	..	..	..	..	..	..	..	..	..	..	..	-2.0*
Plan 1981-1985	..	..	..	..	..	..	..	..	..	..	..	..	..	..
<i>Romania</i>														
1976-1980	4.6	3.9	8.9	5.8	12.6	9.6	12.8	9.5	6.3	7.2	10.7	8.6	9.0	6.0
1979	1.7	0.8	8.6	3.3	11.5	1.4	12.9	7.5	4.9	3.9	8.6	8.6	8.4	7.3
1980	1.6	0.7	0.6	6.5	9.7	6.8	4.6	9.8	5.4	6.0	9.2	8.6	8.5	1.5
1981	4.1	-1.3	4.3	0.6	2.2	3.9	-0.2	9.7	3.2	0.9	6.3	6.2	6.2	-1.0
1982	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Plan 1981-1985	6.0	..	7.7	..	8.8	10.2	5.8*	..	..	..	7.5	..	..	7.7
<i>Soviet Union</i>														
1976-1980	5.1	3.0	1.9	..	8.2	5.7	1.9	6.5	2.5	2.3	2.7	5.1	3.7	1.4
1979	3.4	1.9	0.0	..	7.7	2.3	0.0	4.8	0.0	-4.4	1.8	4.3	2.6	1.9
1980	5.8	1.7	0.0	..	5.7	5.6	0.9	5.4	2.7	2.7	1.9	6.7	3.4	0.0
1981	2.2	1.9	0.0	..	5.9	5.5	1.9	4.4	4.0	3.8	2.1	3.7	2.7	2.1
1982	3.0	2.0	0.9*	0.8*	5.0	3.0	0.9	..	5.2*	4.8*	..	0.2	..	4.0
Plan 1981-1985	..	..	..	..	7.0	5.7	..	..	..	..	..	3.5	..	4.2

Sources: As for table 3.3.1.

* Including wood processing, pulp and paper.

TABLE 3.3.9

Structure of industrial production by major branches
(Percentage share)

	Total	Electricity and heating	Fuel	Metallurgy	Engineering	Chemicals	Construction materials	Light industry	Food processing
<i>Bulgaria</i>									
1975	100.0	2.3	3.8	3.8*	24.4	7.6	3.9	19.3	23.5
1980	100.0	2.7	3.7	4.0*	28.4	9.0	4.2	17.6	20.2
1981	100.0	4.1	9.9	4.5*	22.7	8.3	4.9	14.5	22.5

TABLE 3.3.9 (CONTINUED)

	Total	Electricity and heating	Fuel	Metallurgy	Engineering	Chemicals	Construction materials	Light industry	Food processing
Czechoslovakia									
1975	100.0	2.7	6.3	10.9	32.2	8.1	3.4	17.3	14.5
1980	100.0	3.3	7.0	10.8	30.4	8.5	3.6	17.5	13.9
1981	100.0	3.2	6.9	10.6	31.2	8.5	3.6	17.2	13.8
German Democratic Republic									
1975	100.0	6.9	8.5	9.3	27.4	11.8	2.3	16.5	15.1
1980	100.0	7.0	8.4	9.3	30.5	11.5	2.0	15.1	13.7
1981	100.0	6.9	8.3	9.5	31.2	11.3	1.9	14.9	13.3
Hungary									
1975	100.0	5.3	8.1	10.7	30.5	10.8	2.0	14.8	15.1
1980	100.0	5.8	7.6	9.6	30.0	13.2	2.0	14.2	14.7
1981	100.0	5.8	7.3	9.1	30.6	13.4	1.9	14.3	14.6
Poland									
1975	100.0	2.6	7.1	10.1	27.6	9.1	3.3	18.6	19.2
1980	100.0	2.7	6.5	9.5	31.3	8.8	2.8	18.2	17.6
1981	100.0	2.9	6.6	8.8	30.8	8.9	2.6	18.7	17.9
Romania									
1975	100.0	2.7	3.4	10.7	32.5	11.7	3.2	20.4	13.1
1980	100.0	1.8	3.9	10.8	35.5	9.0	3.5	20.4	12.9
1981	100.0	2.6	8.4	11.7	30.6	10.1	3.6	19.6	11.2
Soviet Union									
1975	100.0	3.0	6.4	..	24.3	7.4	4.2	21.4	20.1
1980	100.0	3.1	6.0	..	27.4	7.6	3.8	20.5	18.1
1981	100.0	3.1	5.9	..	27.9	7.8	3.7	20.4	18.0

Source: CMEA statistical yearbooks.

Note: State and co-operative industries only.

* Excluding non-ferrous metallurgy.

TABLE 3.3.10

Producer (A) and consumer (B) goods parts of industrial output
(Percentage shares)

	1975		1980		1981	
	A	B	A	B	A	B
Bulgaria	58.6	41.4	62.0	38.0	65.2	34.8
Czechoslovakia	64.6	35.4	68.1	31.9	68.1	31.9
German Democratic Republic	65.5	34.5	66.4	33.6	66.5	33.5
Hungary	64.7	35.3	64.5	35.5	63.8	36.2
Poland	63.9	36.1	63.7	36.3	63.5	36.5
Romania	72.2	27.8	74.3	25.7	73.3	26.7
Soviet Union	73.7	26.3	73.8	26.2	73.7	26.3

Source: *Statisticheski ezhegodnik stran - chlenov SEV* (CMEA statistical yearbook), Moscow, Finansy i statistika, 1982, p.61.

for the production of robots, industrial handling machinery, automated technology modules, and improved technological components and installations for complete plant.

In Czechoslovakia, industrial policy in 1982 was oriented towards balanced growth. Moderate growth targets were announced, together with plans to achieve savings in energy and material inputs, and structural changes and innovations which do not depend on large-scale capital investments. These were accompanied by stricter currency regulations governing imports. Judging by the plan fulfilment report, this policy was realistic. Gross industrial output increased by 1 per cent in 1982, slightly higher than the plan target of 0.6 per cent. The moderation of industrial expansion was associated with the more limited supply of energy and other material inputs, and a policy orientation of decreasing external indebtedness. The total consumption of fuel and energy in 1982 in fact fell below the level of 1981, while oil

imports were reduced by 10 per cent. Some interruptions were reported in supplies of imported raw and other materials, machinery and spare parts.

Important structural changes took place within industry. In accordance with planned targets, higher rates of growth were reached in the manufacturing industries, notably those based on domestic raw materials. Slower growth was particularly noticeable in branches which are highly energy- or import-intensive. The fastest rate of growth was recorded in electrical engineering (4.8 per cent), followed by the pulp and paper industry (4 per cent), wood-processing (3.5 per cent) and engineering (2.9 per cent). In contrast, gross industrial output in the chemical industry fell some 0.3 per cent below the 1981 level. Absolute falls in output were also reported in the metallurgical industry (0.4 per cent), the production of construction materials (1.5 per cent) and in food-processing (0.8 per cent).

Positive results were reported for energy and metal

savings. Reductions in the cost of production and increased profitability were also achieved. Performance criteria introduced by the "Set of Measures for Improving the System of Planned Management of the National Economy" played an important role in this respect. Nevertheless, it was officially stated that the transition towards a more intensive type of development is still slow and insufficient.²³⁹

Plans for 1983 envisage an acceleration of industrial growth to 2.4 per cent – significantly higher than the 1 per cent increase in 1982. Structural change is required due to continued scarcity of energy and material supplies and also by changes in demand. Production of branches included in the state target-oriented programmes to which high priority is given are to increase in 1983 by 14 per cent. Production on the basis of foreign licences is to be speeded up. Further retrenchment is assumed in the energy-intensive branches – metallurgy, chemicals and construction materials. Hence engineering is planned to occupy the key position in industrial development with a planned increase of 4.8 per cent (7.4 per cent in electrical engineering). Wood-processing is to grow by 4.7 per cent and food-processing by 2.4 per cent. However, light industry output is targeted at only 1.4 per cent, electricity at 1 per cent and chemicals at 0.8 per cent.

In the *German Democratic Republic* industrial production measured in terms of "commodity production" (marketable production) increased in 1982 by 3.2 per cent (industrial output under the industrial ministries rose by 4.3 per cent). This represents a slowdown in industrial growth rates in comparison with the 5 per cent average annual increase recorded in 1976–1980 and the 4.7 per cent increase in 1981. Nevertheless, the German Democratic Republic and Bulgaria are the only east European countries where industrial growth rates in recent years remained at a relatively high level.

In 1982 the output targets set for industrial ministries were achieved. Plans for industrial commodity production were fulfilled in 130 out of a total of 133 *Kombinate*.

Important changes in the pattern of growth came about as a result of the higher-than-average growth of engineering and electronics. In particular, the output of industrial robots doubled compared with 1981. The production of numerically controlled machine tools increased by 33 per cent and output of micro-electronic components by 29 per cent in accordance with the priorities laid down in the five-year plan for 1981–1985.

As in 1981, industrial expansion was based on low consumption of fuels, energy and raw and other materials. The volume of such inputs per unit of output fell by 6 per cent. Total material costs per unit of commodity production fell by 2.6 per cent and net industrial production in the sphere of industrial ministries rose by 5 per cent against a 4.3 per cent increase in gross industrial production. Important results were achieved in the recycling of secondary raw materials. More than 10 per cent of the country's consumption of industrial raw materials was covered from this source. Industrial labour productivity in enterprises under the industrial ministries rose by 3.6 per cent and over 80 per cent of industrial growth was accounted for by the growth in labour productivity. Hence, industrial growth in the German Democratic Republic has been largely achieved by an intensification of economic development. Greater efficiency was achieved notably through the reductions in the unit costs of energy and material inputs.

The plan for 1983 assumes an industrial growth rate of 3.8 per cent – 0.6 of a percentage point above the rate

attained in 1982. Marketable output produced by enterprises subordinated to the industrial ministries will rise by 4.5 per cent and labour productivity by 4 per cent. According to national sources, the German Democratic Republic will continue to promote offensive growth strategy and will strive for high rates of output and productivity growth.²⁴⁰ Published figures on marketable output growth by ministries show that the priority given to electrical engineering and electronics will continue (table 3.3.11). A further slowdown is envisaged for the metallurgical, chemical and food-processing branches. In accordance with the long-term strategy of achieving greater productive efficiency, the intensive factors determining industrial growth are again stressed. In this area, the plan lays down further reductions in energy, raw and other material inputs per unit of output. In particular, energy consumption per unit of output is to be reduced by 4.2 per cent. The corresponding figure for rolled steel in metallurgy is a reduction of 10 per cent, and for cement in construction a reduction of 8 per cent. Total costs per unit of marketable production are to decrease by 2.9 per cent, within which material costs are to fall by 3.2 per cent. Output of some major industrial products is shown in table 3.3.12.

Industrial policy in *Hungary* in 1982 was subordinated to the objective of balanced economic growth, in particular with regard to improvement in the foreign trade balance. Production levels were to be reached with a decreasing labour supply, labour productivity growing faster than output. The envisaged industrial output growth targets nevertheless were not attained in recent years, as the pace of industrial growth was affected by some constraining factors such as diminished investments, cuts in energy (tables 3.3.13 and 3.3.14) and raw materials imports, and reduced export prospects due to low demand in foreign markets. In 1982 gross industrial output increased by 2 per cent compared with plan targets of 2–2.5 per cent. Both plan and performance in 1982 were thus lower than the 2.8 per cent increase achieved in 1981. The leading industrial branches in order of output growth performance in 1982 were the food industry (4.4 per cent increase), and engineering

TABLE 3.3.11

Planned growth of commodity output by industrial ministries
(Annual percentage change)

	1981	1982	1983
Industry total	5.8	4.6	4.5
Coal and energy	3.0	3.7	3.7
Ore mining, metallurgy and potash	5.8	3.3	2.6
Chemical industry	6.3	6.0	3.3
Electrotechnical engineering and electronics	8.9	7.7	8.5
Heavy engineering and complete installations	5.9	5.7	5.2
Machine tools and metal-working machinery	9.1	8.7	8.4
General and agricultural engineering and vehicles	7.8	6.7	5.1
Light industry	4.0	3.7	3.1
Glass and ceramics	5.1	4.2	5.2
Food processing and local industry	6.2	4.6	3.7

Source: National plans

²³⁹ See S. Potáč "Main targets of economic and social development in 1983", *Plánované hospodářství*, No. 1, 1983, p.2.

²⁴⁰ E. Honecker, Closing speech to the 4th Session of the Central Committee of the Socialist Unity Party of Germany, 4. *Tagung des zentralkomitees der SED*, 23./24.6. 1982, Dietz Verlag, Berlin 1982, p. 90.

(3.7 per cent). Below-average growth rates were recorded by the chemical industry (1.8 per cent), mining (1.4 per cent), construction materials (0.9 per cent) and metallurgy (0.8 per cent). Absolute declines in production compared with 1981 were registered in electricity and heating (0.6 per cent) and light industry (1.6 per cent). The declining trend in industrial employment continued in 1982 with a further fall of 2 per cent. Labour productivity rose at a rate exceeding that of the growth of output (by 4.1 per cent). Industrial deliveries for export increased by 4.8 per cent, reflecting the policy of promoting export-oriented production. On the other hand industrial deliveries for investment substantially decreased (by 6.9 per cent) in response to a restrictive investment climate.

The plan for 1983 envisages a 1–2 per cent increase in industrial production, which is below the five-year plan target of 3.5–4 per cent average annual growth. The range of the industrial output targets reflects a flexible approach of the country to economic development in 1983. It seems unlikely however that the general conditions for industrial development will change substantially relative to 1982. Industrial employment is expected to decline further. Imports and total energy consumption will be held at their 1982 levels. No new large-scale state-sponsored investments will be begun in 1983. Expansion of industrial production will be directed where possible to exports. Industrial policy stresses higher efficiency of production, particularly in the field of material inputs, by speeding up energy saving and rationalization programmes. It is hoped to improve the foreign trade balance by more competitive production and an increased export sales effort.

The year 1982 was considered in *Poland* as one of gradual consolidation. Accordingly, it was expected that the steep decline in industrial output levels would be arrested, and even that an upward trend in industrial

production would occur. The main objective was to increase coal extraction, energy production, processed food output and production for export in general. Though targets were not achieved, some degree of stabilization did occur in the course of 1982. Thus in the first half of 1982 sales of industrial production decreased by 7.8 per cent compared with the same period of 1981. But in the second half industrial performance improved. From August onward, a gradual but progressive increase in production compared with the same period of 1981 was recorded. Though for 1982 as a whole a 6 per cent decrease in net industrial output was reported, this represented an improvement relative to the 10.5 per cent decline in gross industrial production recorded in 1981. Industrial production was greatly handicapped by material supply shortages – notably those arising from the fall in imports from the developed market economies. A substantial drop in imports of spare parts caused under-utilization of much machinery and equipment which had originally been imported or built in Poland under licence.

In 1982 coal extraction amounted to 226.9 million tonnes – a 14.2 per cent increase over the corresponding period of 1981. Increases in the production of electricity, electrolytic copper, tractors, nitrogen fertilizers, cement and paper were recorded. However, the decline continued in the production of natural gas, zinc, aluminium, coke, passenger cars, phosphoric fertilizers and refined oil. Labour productivity in socialized industry (sales per employee) increased by 4 per cent due to a further decrease in industrial employment.

The plan for 1983 is based on proposals contained in the national socio-economic plan for 1983–1985. An increase in industrial production is considered as a basic prerequisite for the successful implementation of the basic objectives for 1983. Industry is to maintain and promote the rising trend which started in the second half

TABLE 3.3.12

Output of some major industrial products

	Electricity (billions of kWh)	Coal (millions of tons)	Crude oil (millions of tons)	Natural gas (billions of M ³)	Steel (millions of tons)	Steel pipes (millions of tons)	Motor cars (thousands)			Tractors (thousands)	Refrigerators (thousands)	
							Passenger	Trucks	Buses			
<i>Bulgaria</i>												
1979	32.5	28.2	—	0.1	2.5	0.2	15.0	—	1.9	5.9	82	
1980	34.8	30.2	—	0.2	2.6	0.2	15.4	—	2.1	6.8	96	
1981	37.0	29.2	—	0.1	2.5	0.3	15.0	—	2.1	6.6	126	
1982	40.4	31.7	—	..	2.6	..	..	—	..	..	..	
<i>Czechoslovakia</i>												
1979	68.1	124.7	0.1	0.8	14.8	1.5	182	43.2	3.0	35.4	370	
1980	72.7	123.1	0.1	0.6	15.2	1.5	184	45.7	3.3	33.4	353	
1981	73.5	122.8	0.1	0.7	15.3	1.5	181	45.9	2.6	32.1	380	
1982	74.7	124.6	..	..	15.0	..	173	47.3	..	33.5	383	
<i>German Dem. Rep.</i>												
1979	96.8	256.1	—	—	7.0	0.7	171	36.7	2.9	—	613	
1980	98.8	258.1	—	—	7.3	0.7	177	37.0	2.9	—	637	
1981	100.7	266.7	—	—	7.5	0.7	180	39.4	3.0	—	655	
1982	102.9	276.0	—	—	..	..	..	..	..	—	701	
<i>Hungary</i>												
1979	24.5	25.7	2.0	6.5	3.9	0.3	—	1.0	13.4	0.1	459	
1980	23.9	25.7	2.0	6.1	3.8	0.3	—	0.2	12.4	0.1	499	
1981	24.2	25.9	2.0	6.0	3.6	0.3	—	—	11.1	0.2	504	
1982	..	..	..	..	..	..	—	—	..	..	..	
<i>Poland</i>												
1979	117.5	239.1	0.3	6.9	19.2	1.1	350	51.1	13.5	54.2	765	
1980	121.9	230.0	0.3	6.0	19.5	1.1	351	53.7	13.1	57.5	694	
1981	115.0	198.6	0.3	5.7	15.7	1.0	240	37.5	11.2	50.5	553	
1982	117.6	226.9	0.3	5.5	14.5	..	229	37.8	..	53.0	509	

TABLE 3.3.12 (CONTINUED)

	Electricity (billions of kWh)	Coal (millions of tons)	Crude oil (millions of tons)	Natural gas (billions of M ³)	Steel (millions of tons)	Steel pipes (millions of tons)	Motor cars (thousands)			Tractors (thousands)	Refrigerators (thousands)	
							Passenger	Trucks	Buses			
Romania												
1979	64.9	32.8	12.3	32.3	12.9	1.5	73.7	33.9	3.8	62.5	446	
1980	67.5	35.2	11.5	33.3	13.2	1.5	88.2	31.7	4.1	70.9	376	
1981	70.1	36.9	11.6	35.1	13.0	1.4	91.9	..	..	68.1	400	
1982	68.9	37.9	11.7	32.5	13.0	1.4	89.0	..	..	80.0	..	
Soviet Union												
1979	1 238	657.6	585.6	378.9	149.1	18.2	1 314	780	79.2	557	5 953	
1980	1 294	652.9	603.2	405.6	147.9	18.2	1 327	787	85.2	555	5 925	
1981	1 326	637.8	608.8	433.6	148.4	18.3	1 324	787	86.9	558	5 933	
1982	1 366	650.5 ^a	613.0	501.0	147.0	17.9	1 307	780	85.7	..	5 800	
	Television sets (thousands)	Mineral fertilisers (thousands of tons nutrient content)	Plastic and resins (thousands of tons)	Chemical fibres (thousands of tons)	Cement (millions of tons)	Pulp (thousands of tons dry matter)	Paper and cardboard (thousands of tons)	Fabrics (millions of M ²)	Meat (thousands of tons)	Sugar (thousands of tons)		
Bulgaria												
1979	82	686	200	92	5.4	196	381.7	451	478	385		
1980	91	653	255	96	5.4	190	395.1	458	462	341		
1981	112	710	310	101	5.4	196	426.4	474	475	405		
1982	..	..	..	..	5.6	..	..	..	489	..		
Czechoslovakia												
1979	450	1 198	853	152	10.3	587	1 146	886	1 119	919		
1980	389	1 233	894	165	10.5	584	1 186	908	1 140	779		
1981	398	1 139	913	169	10.6	586	1 202	929	1 149	777		
1982	..	..	956	180	..	..	1 236*	..	..	..		
German Dem. Rep.												
1979	584	4 681	779	292	12.3	495	1 221	739	1 498	792		
1980	578	4 735	861	293	12.4	514	1 242	749	1 550	733		
1981	619	4 787	998	303	12.2	506	1 258	755	1 601	818		
1982	..	..	..	..	..	..	..	..	..	..		
Hungary												
1979	421	1 043	294	27	4.9	38.4	436.7	472	752	498		
1980	417	1 045	328	29	4.7	29.8	440.4	450	779	468		
1981	424	1 112	312	29	4.6	31.8	457.6	439	781	490		
1982	..	..	..	..	..	..	..	..	..	..		
Poland												
1979	915	2 417	467	245	19.2	494	1 248	1 506	2 560	1 586		
1980	900	2 238	576	256	18.4	526	1 277	1 499	2 460	1 067		
1981	764	2 242	502	205	14.2	465	1 124	1 318	1 856	1 685		
1982	576	2 283	438	201	16.0	..	1 181	..	1 849	1 840		
Romania												
1979	574	2 522	516	144	14.7	597	846	1 020	1 104	525		
1980	541	2 451	579	152	14.6	588	847	1 085	1 071	509		
1981	498	2 640	584	145	13.8	..	855	1 076	1 052	609		
1982	412	2 700	..	..	..	..	..	..	1 096	600		
Soviet Union												
1979	7 271	22 137	2 911	1 100	123	5 108	8 729	10 389	8 919	10 647		
1980	7 528	24 767	3 028	1 176	125	5 192	8 733	10 418	8 524	10 127		
1981	8 190	25 998	3 404	1 213	127	5 317	8 954	10 529	8 653	9 491		
1982	8 300	26 700	4 100	1 200	124	..	..	11 000	..	12 100		

Sources: CMEA statistical yearbooks, plan-fulfilment reports.

^a Based on the methodology of CMEA.

of 1982. It is envisaged that structural changes will bring about faster adjustment of industrial output to changes in demand entailed by the priority objectives of the plans and which will align final output more closely with the limitations imposed on the availability of production factors – notably material input supplies and imports from the developed market economies.

The plan assumes industrial growth of 4 per cent. Coal extraction is to remain at the previous year's level. Above-average growth is planned for the chemical industry (almost 7 per cent), timber and pulp (9 per cent)

and light industry (5.5 per cent). Production of machinery and equipment for agriculture is to rise by about 15 per cent. The envisaged 4 per cent growth of industrial output is to be accompanied by a 1.8 per cent increase in raw and other material inputs. To encourage rational and effective utilization of existing resources, both central distribution mechanism and economic levers (notably prices) will be used. Operational programmes will be fewer than in 1982 and will lay down material supply priorities.

Industrial strategy for 1981–1985 in *Romania* is aimed

TABLE 3.3.13

Electricity production, consumption and generating capacity

	Volume in 1980	Annual average percentage change			
		1976-1980	1979	1980	1981
<i>Bulgaria</i>					
Electricity production	35.5	6.7	3.2	9.2	4.1
Electricity consumption	38.7	5.9	..	..	..
Generating capacity	8 197	3.0	1.1	2.5	10.5
<i>Czechoslovakia</i>					
Electricity production	72.7	4.2	-1.4	6.8	1.1
Electricity consumption	74.5	3.3	-1.5	4.4	1.5
Generating capacity	16 626	4.1	1.7	1.7	7.9
<i>German Democratic Republic</i>					
Electricity production	98.8	3.2	0.9	2.0	1.9
Electricity consumption	100.3	3.5	0.8	2.1	1.9
Generating capacity	20 454	3.9	3.0	5.2	4.5
<i>Hungary</i>					
Electricity production	23.9	3.1	-4.1	-2.6	1.7
Electricity consumption	34.1	4.9	2.5	0.7	3.0
Generating capacity	5 407	4.7	-5.4	3.1	-1.2
<i>Poland</i>					
Electricity production	121.9	4.7	1.6	3.7	-5.3
Electricity consumption	121.7	4.7	1.6	4.0	-5.5
Generating capacity	25 292	4.8	4.0	2.0	0.9
<i>Romania</i>					
Electricity production	67.5	4.7	1.1	3.9	4.0
Electricity consumption	63.8	6.3	2.4	6.0	3.5
Generating capacity	16 109	6.8	10.3	3.2	3.1
<i>Soviet Union</i>					
Electricity production	1 294	4.5	3.0	4.5	2.5
Electricity consumption	1 274	4.4	2.8	4.3	2.4
Generating capacity	266 757	4.2	4.0	4.5	3.7

Sources: CMEA statistical yearbooks, and national statistics.

Note: Electricity production and consumption in billions of kWh, generating capacity in MW.

at the achievement of rapid industrial growth (a 7.6 per cent planned average annual increase). This is expected to be achieved on the basis of higher efficiency in the utilization of production resources, particularly energy, raw and other materials. Ambitious production targets were set for the main industrial branches.²⁴¹ Plan fulfilment in the first two years of the five-year plan period is substantially behind expectations. Marketable industrial production rose by 2.6 per cent in 1981 and by 1.1 per cent in 1982. Among the causes of this steep slowdown in industrial growth were balance-of-payments problems including import constraints and fluctuations in agricultural output. Difficulties were also reported in ensuring supplies of energy, raw and other material inputs.

The plan for 1983 envisages a revival of industrial growth. Marketable industrial production is expected to increase by 6.6 per cent and net industrial output by 8 per cent (rather ambitious targets compared with the previous year's performance and constraints which will probably continue this year). An important role in economic development is given to the energy sectors (sub-section (iii) above). A rather high increase in production is also planned for metallurgy and chemicals. Consumer goods production (light and food industry output) will rise by 7.9 per cent. Special programmes to achieve better utilization of raw materials in light industry and improved quality of products were introduced. A priority programme has been drawn up for the development and production of robots, particularly those

which will replace man in the processes entailing difficult working conditions. Industrial policy for 1983 specially stresses the enlargement of the country's own raw material and energy base, the promotion of conservation policies and better utilization of all production resources. In the remaining three years of the current five-year plan, accelerated industrial growth is expected to take place on the basis of more intensive development and increased efficiency.

Gross industrial output in the *Soviet Union* grew at an average annual rate of 4.5 per cent during 1976-1980. The five-year plan for 1981-1985 sets a slightly higher target rate of overall industrial growth (4.7 per cent). In the first year of the five-year plan, gross industrial production rose at a rate of 3.4 per cent. The rate of growth of consumer goods output exceeded that of producer goods. Gross industrial output in 1982 increased by 2.8 per cent and was below the original annual plan target but on the level of the revised annual industrial growth rate target.²⁴² Gross output increased by 3 per cent in electricity, 2 per cent in fuels, 0.9 per cent in metallurgy, 3 per cent in chemicals, 5 per cent in engineering, 3 per cent in wood-processing, pulp and paper and 0.9 per cent in construction materials, 0.2 per cent in light industries and 4 per cent in food industry. As envisaged by the plan, branches contributing directly to technical progress (engineering and chemicals) developed at above-average rates. Growth of production of consumer goods was slightly higher than that of producer

²⁴¹ See *Economic Survey of Europe in 1981*, UN, New York 1982, p.228.

²⁴² Adjustment of the annual plan is implied in the plan fulfilment report, in which it was stated: "Accurate (utochneny) annual plan in respect of volume of sales was fulfilled". *Pravda*, 23 January 1983.

TABLE 3.3.14

Production (A), net imports (B) and apparent consumption (C) of main forms of energy

	1979			1980			1981		
	A	B	C	A	B	C	A	B	C
Bulgaria									
Coal (millions of tons)	28.2	..	..	30.2	7.2	37.4	30.6	5.1	35.7
Oil and oil products (thousands of tons)	—	..	..	—	..	..	..	..	..
Natural gas (thousands of M ³)	137	..	..	190	..	..	137	..	..
Electricity (billions of kWh)	32.5	..	..	35.5	3.9	39.4	37.0	3.5	40.5
Czechoslovakia									
Coal	124.7	-0.4	124.3	123.1	-0.1	123.0	122.8	-0.6	122.2
Oil and oil products	109 ^a	19 443	19 552	93 ^a	18 258	18 351	89 ^a	18 146	18 235
Natural gas	851	7 280	8 131	626	8 283	8 909	662	8 530	9 192
Electricity	68.1	3.4	71.5	72.7	1.8	74.5	73.5	2.2	75.7
German Democratic Republic									
Coal	256	9.8	265.8	258	10	268	267	5.0	272
Oil and oil products	—	20 694 ^a	20 694 ^a	—	21 876 ^a	21 876 ^a	—	22 734 ^a	22 734 ^a
Natural gas	—	4 330	4 330	—	6 430	6 430	—	6 265	6 265
Electricity	96.8	1.3	98.1	98.8	1.5	100.3	100.7	1.7	102.4
Hungary									
Coal	25.7	2.1	27.8	25.7	3.6	29.3	25.9	1.6	27.5
Oil and oil products	2 028	8 639	10 667	2 031	9 275	11 306	2 024	7 394	9 418
Natural gas	6 521	2 487	9 008	6 127	4 045	10 172	6 011	3 829	9 840
Electricity	24.5	1.8	26.3	23.9	10.2	34.1	24.3	10.6	34.9
Poland									
Coal	239.1	-44.4	194.7	230	-29.9	200.1	198.6	-15.6	183.0
Oil and oil products ^a	331	16 608	16 939	329	16 347	16 676	315	13 510	13 825
Natural gas	7 335	3 983	11 318	6 329	5 312	11 641	6 172	5 261	11 433
Electricity	117.5	0.4	117.1	121.9	-0.2	121.7	115.0	0.0	115.0
Romania									
Coal	34.9	3.8	38.7	37.8	3.9	41.7	39.6	3.9	43.5
Oil and oil products	12 323	6 903	19 226	11 511	6 787	18 298	11 644	4 791	16 435
Natural gas	27 189	-200	26 989	28 156	-201	27 955	29 262	-200	29 062
Electricity	64.9	-27.4	37.5	67.5	-7.7	59.8	70.1	-7.6	62.5
Soviet Union									
Coal	658	..	..	653	..	..	638	..	..
Oil and oil products	585 571	..	..	603 207	..	..	608 820	..	..
Natural gas	378 935	..	..	405 608	..	..	433 609	..	..
Electricity	1 238	-15.4	1 222.6	1 294	-19.9	1 274	1 326	-20.2	1 305.8

Sources: CMEA statistical yearbooks and national statistics. Due to differences in coverage and definitions, figures may differ from national statistics.

Note: Apparent consumption of main forms of energy equals production plus imports and minus exports.

^a Oil only.

goods production. Labour productivity in industry rose by 2.1 per cent and accounted for 75 per cent of industrial growth. With regard to quality indicators, more than 15 per cent of goods produced were accorded the high quality classification – the same as in 1981.

As noted in the plan fulfilment report, a number of shortcomings in industrial performance have persisted²⁴³.

The plan for 1983 is in line with the targets of the five-year plan and with the general economic strategy to improve production efficiency. The need to improve the balance of output as between different industrial branches was also stressed. Gross industrial output is scheduled to rise by 3.2 per cent, 0.4 of a percentage point higher than in 1982. The plan for 1983 attaches great importance to growth in volume and improvements in the quality of consumer goods. Their production is to

increase by 3.5 per cent while output of producer goods is scheduled to rise by 3.1 per cent. Higher growth rates are envisaged for engineering (4.8 per cent) and also for chemicals, gas production and for branches related to the implementation of the food programme. The production of mineral fertilizers is to increase by 5.8 per cent, plastics and resins by 9.1 per cent and chemical fibres by 9 per cent. A rise of 2.7 per cent over 1982 is planned in light industry. Production of cultural and households goods will increase by 8 per cent. The supply of consumer durables to the retail network is to be improved. Important production targets are set for the food industry: the production of meat is targeted to grow by 6.1 per cent, butter and fat by 8.4 per cent, cheese by 6.8 per cent and tinned food by 4 per cent.

A substantial decrease in the growth rate of industrial employment is expected in 1983 (from 0.8 per cent in 1982 to 0.3 per cent in 1983). The share of labour productivity in the growth of industrial output will reach 91 per cent against only 75 per cent in 1982. The need to improve the use of labour resources by raised worker motivation, reduced losses of work time and strengthened discipline in the economy was stressed in this connexion.

Scientific and technical innovation is to be promoted

²⁴³ "Summing up the successes in the development of the national economy in 1982, one cannot overlook the fact that a number of ministries, associations, enterprises and organization still fail to carry out assignments under the plan, specifically in the sphere of raising the efficiency of production". N. Baibakov's report at the Session of the Supreme Soviet. *Pravda*, 24 November 1982.

more actively in all industrial branches. In 1983 the Soviet Union will spend 25.5 billion roubles on the further development of science and technology – 6.2 per cent more than in the previous year and roughly 5 per cent of the expected net material product in that year.

Some 170 scientific-technical programmes are being implemented in the country. Savings and rational use of fuel, energy, raw and other materials and improvements in the quality of output goods will also work to the same end.

3.4 INVESTMENT

The following section reviews developments in investment in the centrally planned economies in 1982, and likely developments in 1983. In sub-section (i), trends in the region as a whole are outlined in relation to developments scheduled under the five-year plans 1981–1985. In sub-section (ii), the short-term interaction between slower growing investment and total NMP growth is briefly examined, together with the policy options retained to offset the more restricted supply of investment resources by accelerated technical progress. In sub-section (iii), various aspects of investment management and policy are reviewed, including developments in the construction industry and the supply of investment goods, the sector and branch distribution of investment allocations, and recent changes in the prices paid for investment works. Finally sub-section (iv) presents short reviews of current developments and policies towards investment in the seven countries of the region.

3.4(i) Investment trends

The further moderation in output growth rates experienced in 1982 by the centrally planned economies taken as a whole was accompanied by a slight (0.4 per cent) decline in aggregate gross fixed capital outlays. But whereas investment allocations fell in all countries of eastern Europe, the Soviet Union recorded a 2 per cent

growth rate in gross fixed capital formation outlays – over twice as high as the 0.9 per cent rise scheduled by the annual plan for the year (tables 3.4.1 and 3.4.2 and chart 3.4.1).

Investment allocations were 6.3 per cent lower than in 1981 in the countries of eastern Europe taken together. A decline was in fact planned in Czechoslovakia and Hungary. Unchanged levels were projected for the German Democratic Republic and Poland, while Bulgaria and Romania expected further increases in the 3–5 per cent range. Investment at planned rates for the six countries together would have resulted in an upturn of about 1 per cent in aggregate. In Bulgaria and Poland, investment outlays fell by as much as 11 and 16 per cent respectively. In the other countries, the decline ranged between 4.0 and 1.6 per cent, in contrast to the 3.0 contractions to 5.0 per cent increases planned. Investment hence fell relative to NMP in all countries of the region – including the Soviet Union where it expanded at a higher rate than foreseen.

Plans for 1983 foresee a further – though less sharp – decline in investment in the east European countries than in 1982. Aggregation of countries' plan objectives indicates an expected contraction of 3.2 per cent compared with the 6.3 per cent aggregate absolute decline registered in 1982. In Bulgaria, a considerable recovery is foreseen, but in the German Democratic Republic and Hungary the fall will be as large as 13.4 and 10.0 per cent (compared with falls of 1.6 and 2.5 per cent

TABLE 3.4.1

Gross fixed capital formation, investment ratios and incremental capital-output ratios

Country and period	Gross fixed capital formation		Ratio of gross fixed capital formation to net material product	Gross incremental capital-output ratio
	Billions of national currency units	Average annual percentage change		
<i>Bulgaria^a</i> (based on constant 1980 prices)				
1976-1980	6.686	4.1	36.6	5.9
1979	6.690	-2.3	34.5	5.2
1980	7.196	7.6	35.1	6.2
1981	7.944	10.5	36.9	7.4
Plan 1982	8.230*	3.6*	36.9*	10.3*
1982	7.000*	-11*	31.6*	7.9*
Plan 1983	7.540	6.7*	32.6*	9.6
Plan 1981-1985	7.399*	0.9*	32.3*	8.7*
<i>Czechoslovakia</i> (based on constant 1977 prices)				
1976-1980	143.0	4.1	33.7	8.6
1979	148.1	1.8	33.6	11.1
1980	150.2	1.4	33.1	11.3
1981	143.3	-4.6	31.7	-86.9 ^c
Plan 1982	138.6	-3.3	30.5	60.9
1982	137.6*	-4.0*	30.5*	..
Plan 1983	135.3*	-1.7*	29.4*	14.7*
Plan 1981-1985	142.5*	-1.7*	29.4*	12.9*
<i>German Democratic Republic</i> (based on constant 1980 prices)				
1976-1980	52.8	4.7	30.7	7.5
1979	54.4	1.4	30.4	7.5
1980	54.5	0.3	29.1	6.6
1981	55.2	1.3	28.2	5.9
Plan 1982	55.2*	—*	26.9*	5.6*
1982	54.3	-1.6	26.9	9.0
Plan 1983	47.0	-13.4	22.4	5.3
Plan 1981-1985	53.7*	-0.5*	24.8*	5.0*

TABLE 3.4.1 (CONTINUED)

Country and period	Gross fixed capital formation		Ratio of gross fixed capital formation to net material product	Gross incremental capital-output ratio
	Billions of national currency units	Average annual percentage change		
<i>Hungary^b (based on constant 1976 prices)</i>				
1976-1980	173.3	4.4	37.4*	9.0
1979	185.6	1.1	38.3	19.6
1980	173.1	-6.7	36.0	-42.6 ^c
1981	161.5	-6.7	32.9	16.5
Plan 1982	158.8*	-1.7	32.0*	24.6*
1982	157.5*	-2.5*	31.5*	18.0*
Plan 1983	141.7*	-10.0	28.2*	37.6*
Plan 1981-1985	175.7*	0.5*	33.5*	11.5*
<i>Poland^c (based on constant 1977 prices)</i>				
1976-1980	617.6	-0.4	36.1	10.6
1979	612.2	-7.9	35.1	-15.3 ^c
1980	536.9	-12.3	32.8	-5.5 ^c
1981	414.9	-22.7	28.8	-2.4 ^c
Plan 1982	414.9*	—*	29.2*	19.5*
1982	348.5*	-16.0*	26.1*	-3.5 ^c *
Plan 1983	354.1*	1.6*	26.0*	11.5*
Plan 1981-1985	..	..	..	..
<i>Romania (based on constant 1980 prices)</i>				
1976-1980	185.0	9.8	40.5	4.8
1979	204.4	4.1	41.5	7.1
1980	210.5	3.0	41.5	13.9
1981	195.5	-7.1	37.7	17.1
Plan 1982	205.3*	5.0*	37.6*	6.8*
1982	190.6	-2.5	35.9	13.8
Plan 1983	192.0	0.7	34.4	6.9
Plan 1981-1985	239.5*	4.4*	38.4*	5.4*
<i>Soviet Union (based on constant 1976 prices)</i>				
1976-1980	126.7	3.9	29.4	6.2
1979	130.6	0.7	29.2	13.3
1980	133.7	2.4	28.8	7.4
1981	138.8	3.8	29.0	8.8
Plan 1982	140.0	0.9	28.1	7.2
1982	141.6*	2.0	28.8*	11.1*
Plan 1983	146.1*	3.2	28.8*	8.7*
Plan 1981-1985	140.0	1.5	27.5	8.9

Sources: National statistics, CMEA Statistical Yearbooks; plans and plan fulfilment reports.

Note: Where ranges were given for annual or five-year plan targets, investment figures shown above (and NMP growth rates used to calculate ICORs) are mid-points of the range. Geometric averages were used to compute average levels and percentage changes over five-year periods. The latter are based on the final year of the preceding five-year period. Five-year plan objectives are based on secretariat estimates of the year-by-year evolution of investment and NMP objectives where these were not shown in the plans, on the assumption of constant annual percentage growth rates.

* Series for 1976-1980 are calculated from index numbers rebased on current 1980 prices. Average investment prices rose by some 7.2 per cent in that year - the first such increase for many years. Figures shown here for plan 1982, 1982 and plan 1983 are at current prices, and the possibility of further changes should be borne in mind.

^b Socialist sector only. Figures after 1981 are based on published figures in current prices deflated by an estimated 4 per cent annual price rise.

^c Minus sign indicates NMP contraction.

TABLE 3.4.2

Changes in gross fixed investment 1981, 1982 and 1983 (plan)

	1981	Plan 1982	1982	Plan 1983
Bulgaria	10.5	3.6*	-11*	6.7*
Czechoslovakia	-4.6	-3.3	-4*	-1.7*
German Democratic Republic	1.3	—*	-1.6	-13.4
Hungary ^a	-6.7	-1.7 ^b	-2.5* ^b	-10.0
Poland	-22.7	—*	-16.0*	1.6*
Romania	-7.1	5.0*	-2.5	0.7
Total eastern Europe	-7.6*	1.1*	-6.3*	-3.2*
Soviet Union	3.8	0.9	2.0	3.2
Total eastern Europe and the Soviet Union	0.2*	1.0*	-0.4*	1.4*

Source: As for table 3.4.1.

^a Socialist sector only.

^b Mid-point of range estimated for plan 1982 (-1.5 to -2.0 per cent) and planned for 1982 (-2.0 to -3.0).

CHART 3.4.1.

CHANGES IN LEVEL OF NMP, GROSS FIXED CAPITAL FORMATION, AND INVESTMENT RATIO

(indices, 1973–1977=100)

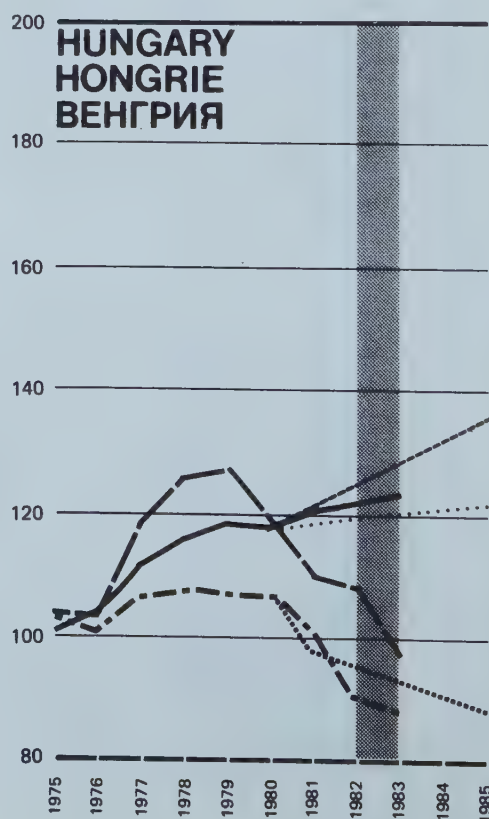
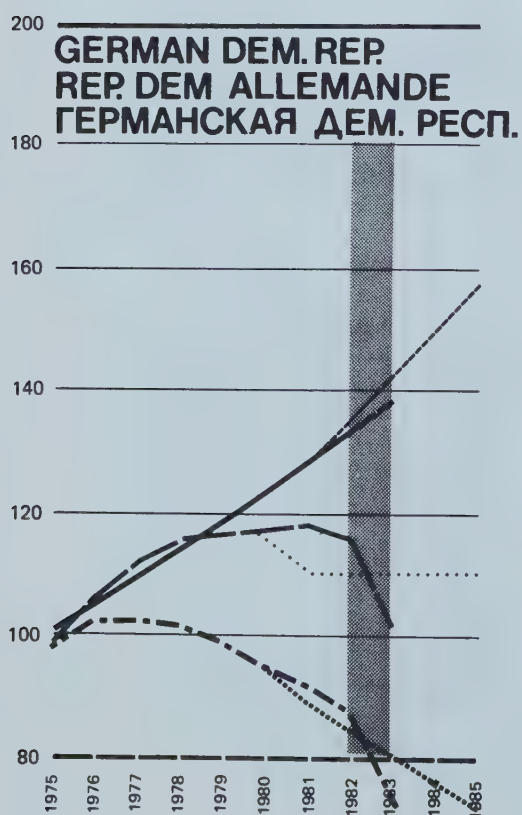
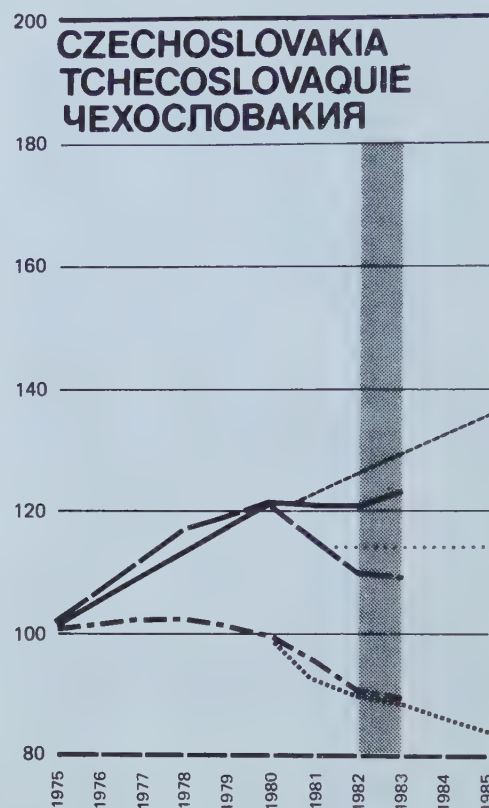
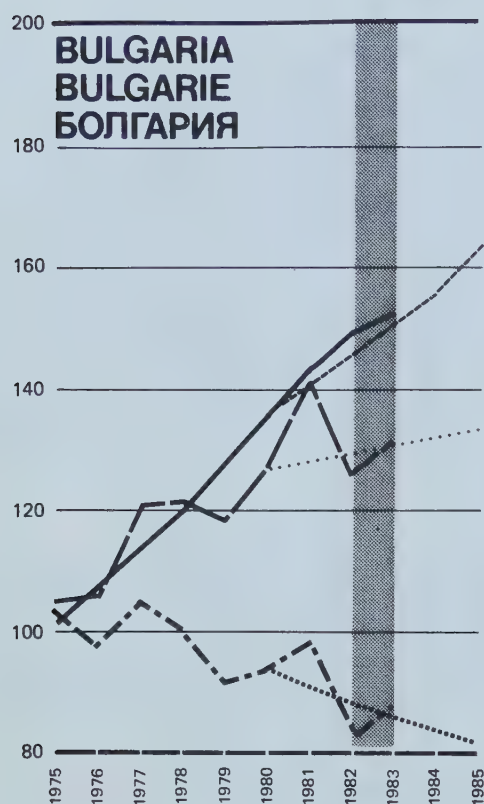


CHART 3.4.1.

CHANGES IN LEVEL OF NMP, GROSS FIXED CAPITAL FORMATION, AND INVESTMENT RATIO

(indices, 1973-1977=100)

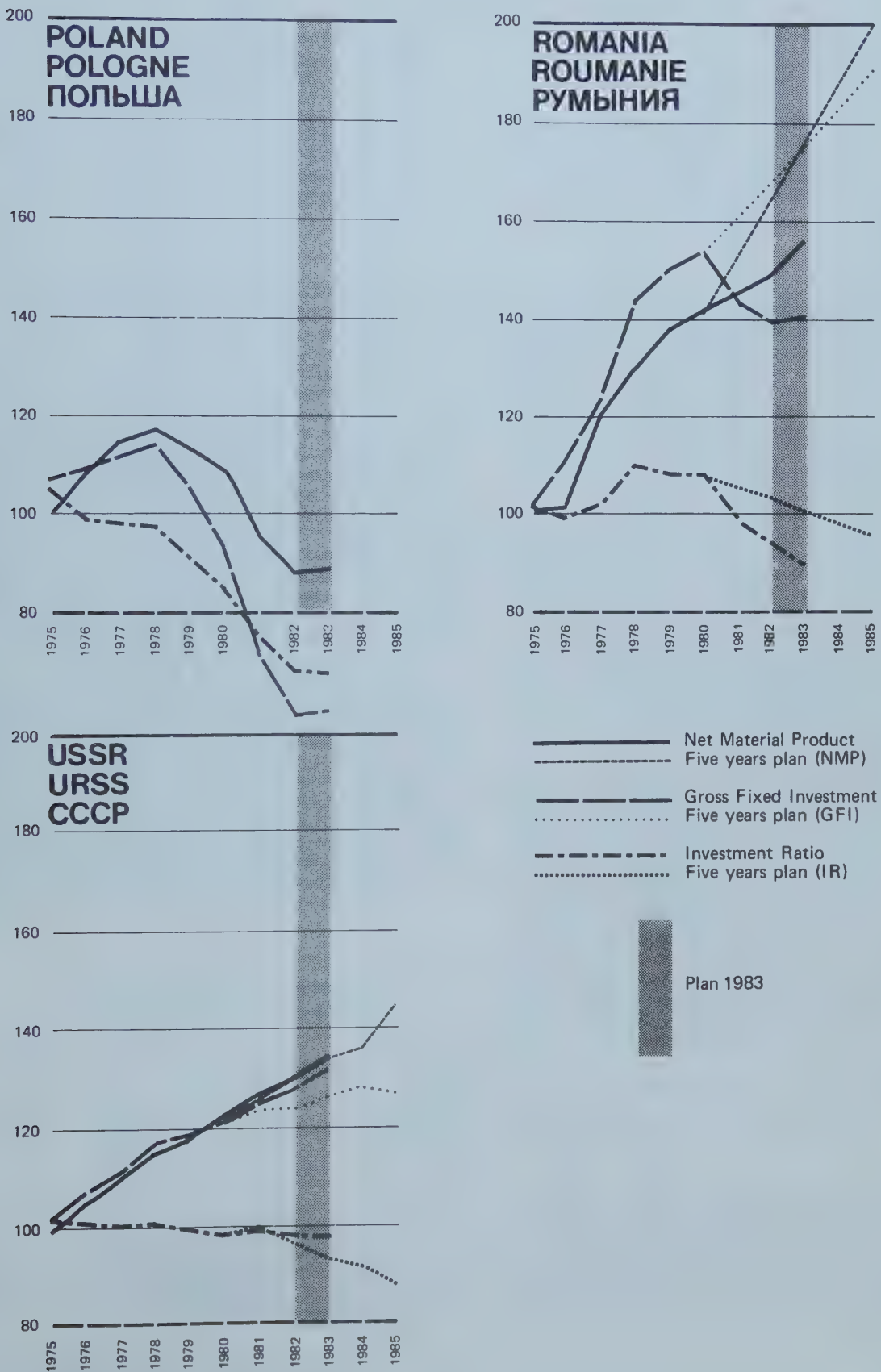


TABLE 3.4.3

NMP and investment growth 1980–1982 and plan 1983
(Percentage change)

	1980		1981		1982		Plan 1983	
	NMP Investment		NMP Investment		NMP Investment		NMP Investment	
Bulgaria	5.7	7.6	5.0	10.5	4.0	–11*	3.8	6.7*
Czechoslovakia	2.9	1.4	–0.4	–4.6	0.0*	–4.0*	2.0	–1.7*
German Dem. Rep.	4.4	0.3	4.8	1.3	3.0	–1.6	4.2	–13.4
Hungary	–0.8 ^a	–6.7 ^b	2.0 ^a	–6.7 ^b	1.8 ^a	–2.5 ^{ab}	0.8 ^a	–10.0 ^b
Poland	–6.0	–12.3	–12.1	–22.7	–8.0	–16.0*	2.3 ^a	*1.6*
Romania	2.9	3.0	2.2	–7.1	2.6	–2.5	5.0	0.7
Soviet Union	3.9	2.4	3.3	3.8	2.6	2.0	3.3	3.2

Source: As for table 3.4.1.

^a Mid-point of range.

^b Socialist sector only.

respectively in 1982). Only in Poland and Romania is any increase in investment expected – some 1.6 and 0.7 per cent respectively, compared with the 16.0 and 2.5 per cent reductions recorded in 1982. The Soviet Union is an exceptional case; it is the only country of the region where no decline in investment has taken place. In fact, attainment of the 1983 target of 146.1 billion roubles would imply an acceleration in investment outlays from about 2 per cent in 1982 to about 3.2 per cent in 1983.²⁴⁴

The movements described above brought about further falls in investment ratios in all countries in 1982 (table 3.4.1). The same is true in almost all cases with regard to the plans for 1983. This continues a tendency common to all east European countries in each year since 1979 and after 1981 in the Soviet Union, though the slowdown was already visible in the mid-1970s. The plans for 1983 indicate reductions in the investment ratio in the German Democratic Republic, Hungary and Romania of between 1.5 and 4.5 percentage points, smaller declines in Czechoslovakia, Poland and the Soviet Union, and a rise only in Bulgaria.

In general, there was a correspondence between the *direction* of change of NMP in recent years and changes in investment. Where investments have grown more slowly or declined faster than in the previous year, NMP growth has also decelerated – and vice versa. The exceptions are Bulgaria in 1981 and 1982 and also in the estimated plan target for 1983, Hungary and the Soviet Union in 1982, and also the acceleration of NMP growth in the German Democratic Republic projected for 1983 which is to be accompanied by an expected large fall in investment outlays. This probably reflects mainly the short-term demand effects of changes in investment allocation patterns. However, the relationship between the *size* of year to year changes in investment and overall growth performance is not very close. This suggests that individual countries have adjusted to rather similar investment allocation constraints to different degrees (table 3.4.3).

In assessing progress in 1981 and 1982 in relation to the five-year plan targets for 1985, it is necessary to distinguish between three groups of countries. In the

first, policies looked forward to an absolute decline in investment during 1981–1985 relative to the final year of the previous plan period. The two countries in this group are Czechoslovakia and the German Democratic Republic. In Czechoslovakia, investment levels in 1981–1982 combined were below the levels implied in the five-year plan for the two years. In the German Democratic Republic they were slightly above. But in both countries, the further cuts planned for 1983 would imply a recovery in annual investment growth in 1984/1985 (to 6.5 and 12.4 per cent respectively) if the aggregate investment levels foreseen over the five-year plan period are to be achieved (table 3.4.4). Although some reversal of the decline in investment outlays during the last two years of the five-year plan period cannot be ruled out, it seems clear at the present time that the authorities in the two countries are now attempting to restrict investment by somewhat more than originally foreseen.

In the second group of countries – Hungary and particularly Romania – it now appears likely that the original targets for 1981–1985 were set at unsustainable levels. Below-plan performance in 1981 and 1982 in these two countries, together with the further cuts planned in their level of investment in 1983 would thus require an extremely rapid recovery in 1984 and 1985 if their five-year targets were to be achieved. A major development in 1983, therefore, seems to be a further downward adjustment of some magnitude with respect to the already modest medium-term investment targets for 1981–1985 in these two countries.

TABLE 3.4.4

Implied investment growth for 1983–1985 and 1984–1985
(Average annual percentage change)

	1983–1985 ^a	1984–1985 ^b
Bulgaria	1.8	–2.8
Czechoslovakia	2.2	6.2
German Democratic Republic	–1.2	12.4
Hungary ^c	8.7	28.8
Poland	..	..
Romania	18.7	36.8
Soviet Union	–0.6	–4.4

Source: As for table 3.4.1.

^a Implied by actual performance in 1981 and 1982 and assuming five-year plan targets for 1981–1985 are achieved.

^b Implied by actual performance in 1981 and 1982 and assuming annual plans for 1983 and five-year plan targets 1981–1985 are achieved.

^c Socialist sector only.

²⁴⁴ Targets expressed in percentage terms in the Laws on the plans for 1982 and 1983 are those retained in this section. Other official documents, such as the summary of the 1983 plan targets and the subsequent plan fulfilment report for 1982, report figures in monetary terms which differ slightly from those implied by the percentage changes referred to – notably, figures of 144.8 billion roubles for planned investment outlays in 1983 and “over 141 billion roubles” for actual outlays in 1982, compared with an estimated 146.1 billion and 141.6 billion roubles, respectively, shown in table 3.4.1.

In the third group of countries, where some further rise in investment was expected between 1980 and 1985, the average level of investment in 1981/1982 in Bulgaria and the Soviet Union was well up to expectations. In Bulgaria – where five-year plan objectives were very modest – the recovery in investment projected for 1983 suggests that the original targets could be achieved with modest declines in allocations in 1984 and 1985. In the Soviet Union, where low growth objectives of some 1.5 per cent annually for 1981–1985 were also set, a similar pattern is evident. Thus in both countries the above-plan investment levels of 1981–1982 relative to the five-year plan objectives are scheduled to continue into 1983. Some reduction below the level implied by the annual plan target for 1983 would thus be necessary in 1984 and 1985 if actual performance were to be retained within the limits originally planned for the whole period 1981–1985. Thus, in contrast with the general tendency in eastern Europe, Bulgaria and the Soviet Union not only continued to invest at above-plan rates in 1981 and 1982 taken together, but appear to have decided upon a further upward adjustment for 1983.

3.4(ii) Investment and growth

Until the later 1970s, the centrally planned countries without exception enjoyed investment-led growth in virtually all years. This reflected the fact that the growth in resources for domestic use (NMP distributed) was not limited by balance-of-payments constraints and left room for both a high investment ratio and increments in consumption in line with social policies. The recent declining trend in investment ratios – the corollary of slower growth in investment allocations than in overall growth – is thus still a relatively new phenomenon. It has widening implications for structural patterns of growth as well as for the dynamism of growth overall. It has its roots in two phenomena related in time. In the first place, a change-over is planned towards intensive growth patterns, now that the industrialization process which continued in some countries of the region until recent years is complete or nearly complete. This in itself requires a reduction in investment costs, as of other costs, per unit of output. Secondly, the changes in economic conditions since the mid-1970s have tended to raise the import cost of material inputs relative to output – and hence to reduce the share of output retained for domestic uses. In order to maintain as far as possible the level of consumption, it has been necessary to alter the previous

investment-oriented pattern of resource allocation for final uses.

It is an empirical fact that the slowdown of economic growth overall observed since the mid-1970s has paralleled the fall in investment expenditures relative to output. The latter shift has undoubtedly affected growth patterns and growth rates – not least by its direct effects in reducing demand for the goods produced by the investment complex (the construction sector, and the engineering and construction materials branches within industry), as well as by the decelerating rate of transfer of new technology into production.

The time series available are not yet long enough – particularly given differences in the pattern of development between individual centrally planned economies – to enable a comprehensive analysis of the investment slowdown and the other causes of slower growth of output and labour productivity to be made. As noted in other sections (notably sections 3.1, 3.3 and 3.6), the decreasing availability of raw materials and energy supplies has played a part. So has the deceleration in labour supplies (tables 3.1.2 and 3.6.3). And it is also likely that the falling share of investment relative to overall allocations of resources, by reducing the pace of the production and introduction of new technology, is also now making an impact which it is not easy to define or quantify.

The decline in the ratio of gross fixed capital formation to NMP (the *investment ratio*) between 1975 and 1982 has ranged between 3 and 7 percentage points in eastern Europe (excluding Poland, where it was as high as 14 percentage points) (table 3.4.5). In the Soviet Union, where a more cautious investment allocation policy was followed in the 1970s, the decline was smaller. If 1975 is compared with the implied five-year plan targets for 1985, the projected decline in the ratio is rather bigger in most countries. However, this reflects very largely the investment boom in the 1970s.

Falls in the investment ratio relative to 1970 are not so marked. In Czechoslovakia the investment ratio was actually higher in 1982 than in 1970, and in the Soviet Union it was lower by 0.5 of a percentage point only. In the same year, the investment ratio in the other countries was lower by 3.0 to 5 per cent. Relative to 1966–1970, differences in 1982 were even less marked; only in Bulgaria, and perhaps Hungary was there a noticeable decline while the ratio rose in Poland, Romania and the Soviet Union.

The further falls in investment ratios implied by the five-year plan NMP and investment growth objectives are thus large in relation to 1975, but much smaller – or in

TABLE 3.4.5
Changes in investment ratios^a
(Percentage points)

	1982 Compared with:			Plan 1985 Compared with:		
	1966–1970 Average	1970	1975	1966–1970 Average	1970	1975
Bulgaria	–3.5	–5.3	–6.7	–4.5	–6.9	–8.3
Czechoslovakia	–0.6	+2.4	–3.0	–3.0	–1.7	–5.4
German Democratic Republic	–0.7	–4.1	–3.2	–5.1	–8.5	–7.6
Hungary ^b	–1.4	–4.4	–5.7	–1.0	–4.0	–5.3
Poland	+0.8	–2.7	–14.4	+0.7	–2.8 ^c	–14.5 ^c
Romania	+7.1	–2.9	–3.1	+7.7	–2.3	–2.5
Soviet Union	+1.9	–0.4	–1.2	–1.3	–2.6	–4.4

Source: As for table 3.4.1.

^a Change in the investment ratio between the years indicated.

^b Socialist sector only.

^c Plan 1983.

some countries non-existent – relative to the 1966–1970 average or to those in the year 1970. Present policies with regard to the share of investment allocations relative to total output, do therefore, indicate a reversion to an earlier pattern of relatively smaller investment outlays within total resource allocation. It should be recalled that this coincided, in the late 1960s, with high rates of output growth. Developments in the current period may therefore be interpreted to a considerable extent as a period of readjustment from the particularly favourable investment climate of the early 1970s to an environment where the conditions which favoured the investment boom of the 1970s (fast growth of overall resources, low energy and raw material prices, abundant low-interest credits from abroad for the purpose of investment goods imports) no longer operate.

Despite the fall in investment ratios since the mid-1970s, the centrally planned economies have not yet experienced any significant changes in the overall growth indices of capital intensity per worker (table 3.6.14). This partly reflects previous high investment levels, and also the deceleration in employment growth rates, and the reduction in the write-off rates of fixed assets which appear to have taken place in most countries (table 3.6.15). What is perhaps the most striking economic development in recent years is the contrast between the deceleration in the rise in output and labour productivity and the continued rise in the capital intensity of labour, and their corollary of declining capital productivity.

This phenomenon clearly indicates a significant build-up of physical capital which is not being used to its fullest extent. It is not possible to separate out the relative weight of the various factors involved. But there appear to be two main elements – slack capacity due to shortage of inputs on the one hand; and on the other hand a possible adverse change in the appropriateness and rate of introduction of new technology in the face of new input and output patterns.

In the first case, an appropriate response is to cut down the amount of new investment. In the second case, a change in the technological specifications of new producer goods is called for – a change which is easier to achieve at rapid rates when investment resources are freely available to accelerate the replacement or modernization of existing equipment. Both these factors are therefore integral but in some respects contradictory parts of current investment strategy. Success in the former task is amply demonstrated by the decelerating rates of growth of investment already noted.

Progress in the second task has probably been slowed down by the relative decline in the availability of resources for investment. Its successful implementation is not in fact easy to assess. Real success cannot be judged until some time in the future – by improvements in capital productivity. Meanwhile, the process involves a complex series of micro-readjustments which can only be judged partially and indirectly by their resultant effects on general indicators – changes in the share of investment scheduled for modernization, reconstruction

TABLE 3.4.6

Fixed capital formation by type of capital good: output of capital goods industries and foreign trade in machinery and equipment

Country and period	Annual percentage change								Machinery and equipment: Percentage share in gross fixed capital formation
	Gross fixed capital formation		Output of capital goods industries				Foreign trade in machinery and equipment		
	Construction work	Machinery and equipment	Construction ^a		Building materials industry ^b	Engineering	Exports ^c	Imports ^c	
			Total	Site work					
<i>Bulgaria</i>									
1976-1980	5.5	1.9	7.1	5.9	8.2	11.2	18.6	6.4	32.4
1979	1.9	-10.3	3.6	2.9	7.0	5.7	9.5	-0.3	30.8
1980	8.7	6.9	3.6	3.6	4.7	6.4	15.1	7.3	30.6
1981	4.5	21.6	5.0*	5.9	4.0	7.1	14.3	13.9	33.7
1982	-7.0	-20.0	..	1.5	0.6	8.7	..	..	30.3*
Plan 1981-1985	..	..	..	2.3	..	8.5	..	..	..
<i>Czechoslovakia</i>									
1976-1980	2.5	6.9	3.4	3.3	4.8	8.1	13.9	11.6	40.2
1979	0.6	3.6	1.3	2.5	2.5	6.5	6.6	0.9	41.2
1980	0.5	2.8	2.5	1.9	4.1	4.6	12.2	8.0	41.7
1981	-2.6	-7.5	0.2	-1.4*	1.8	4.3	13.9	-0.1	40.5
1982	..	..	..	-3.7	-1.5	2.9	..	..	44.3
Plan 1983	-3.2	..	..	2.0	..	5.6*	..	..	..
Plan 1981-1985	..	..	..	..	..	5.1-5.9	..	..	..
<i>German Democratic Republic</i>									
1976-1980	5.2	3.9	4.5	4.2	5.7	7.0	12.6	12.6	47.0
1979	0.4	1.5	1.8	-0.5	0.9	7.1	15.2	8.3	46.9
1980	-1.3	0.6	1.8	1.4	2.0	7.6	0.2	3.9	47.0
1981	1.0	1.7	..	4.1	1.2	7.5	-27.1	-26.3	47.2
1982	..	..	..	4.2	4.2	d	..	..	..
Plan 1983	..	..	1.4	4.0	4.6	d	..	..	..
Plan 1981-1985	..	..	3.4	..	..	7.0	..	..	..
<i>Hungary</i>									
1976-1980	3.9	4.3	4.3	4.3	4.7	4.9	8.2	5.4	40.3
1979	3.0	-1.8	5.2	0.8	3.9	3.6	17.6	-0.2	40.4
1980	-4.1	-9.9	-4.3	-3.0	1.7	-6.1	0.1	-14.9	38.6
1981	-5.5	-6.7*	0.4	-0.2	0.1	5.4	0.5	-4.6	38.6
1982	-1.5*	-4.0*	-4.0*	-1.0*	0.9	3.7	..	..	38.0*
Plan 1983	..	..	..	-(2.0-3.0)	..	..	..	..	..
Plan 1981-1985	..	..	..	2.1-2.8	..	..	..	..	..

TABLE 3.4.6 (CONTINUED)

Country and period	Annual percentage change								Machinery and equipment: Percentage share in gross fixed capital formation
	Gross fixed capital formation		Output of capital goods industries				Foreign trade in machinery and equipment		
	Construction work	Machinery and equipment	Construction ^a		Building materials industry ^b	Engineering	Exports ^c	Imports ^c	
			Total	Site work					
<i>Poland</i>									
1976-1980	-2.0	2.1	2.5	2.4	3.5	9.1	13.0	6.1	41.3
1979	-6.5	-11.0	-4.0	-5.1	-4.6	5.7	10.8	-1.5	40.7
1980	-17.9	-5.1	-9.9	-10.0	-0.9	0.3	5.3	-0.7	44.1
1981	-23.2	-23.5	-21.0	-25.8	-17.6	-12.0	-3.9	-15.2	43.6
1982	..	..	..	-8*	..	..	..	..	..
Plan 1983	..	..	..	..	..	4.9	..	..	..
<i>Romania</i>									
1976-1980	6.6	13.8	9.2	7.2	15.0	13.6	16.5	13.7	47.4
1979	4.2	3.7	3.7	3.0	12.4	11.5	8.9	3.8	48.0
1980	-0.3	5.7	-0.5	-0.8	4.7	10.1	24.0	-7.1	49.3
1981	-6.6	-10.1	-6.8	-4.8	-0.2	2.2	..	..	48.6
Plan 1981-1985	..	..	..	..	5.5-6.5	8.8	..	..	..
<i>Soviet Union</i>									
1976-1980	1.2	7.2	2.6	2.5	2.4	8.9	14.7	13.4	36.1
1979	-0.6	3.6	1.9	1.3	-0.6	7.6	6.2	-0.8	37.0
1980	-0.1	5.2	2.3	1.1	1.3	6.2	5.6	4.7	38.0
1981	2.0	5.1	2.6	2.3	1.9	5.9	-0.4	5.6	38.5
1982	..	..	..	..	0.9	5.0	..	..	..
Plan 1983	..	..	..	..	..	4.8	..	..	42.1
Plan 1981-1985	1.0*	2.9*	..	..	..	7.0	..	..	39.1

Sources: As for table 3.4.1.

Note: Five-year figures for 1976-1980 and plan 1981-1985 are geometrical averages.

^a Of the two series shown for construction output, the "total" column refers to all activity according to national accounts definitions and covers site work ("construction-installation work") - shown in the next column - together with planning, design and survey work undertaken by all enterprises, whether or not mainly engaged in construction, and in all sectors of the economy (including private housing and non-housing output). Inter-country coverage for total output is broadly comparable, and coincides as far as possible with each country's national accounting definitions. Site work is the main planning aggregate and refers to building activity proper, including repair and maintenance work. However, historical data are not always fully comparable, either between countries or for a given country, with latest year estimates and plan targets; the coverage may variously include all sectors, the socialist sector only, construction firms' output only, etc. Site work as shown covered 74-86 per cent of total construction activity in 1980 (but only 67 per cent in Bulgaria due to the exclusion of repair and maintenance work). Despite discrepancies, the linking of plan targets with historical series for site work appears to give a fair indication of trends in building output proper.

^b Output of the building materials industry only except for the German Democratic Republic, for which series covers building materials output of all sectors and industrial branches.

^c At current prices (national currencies) except for Hungary, 1976-1980 only, for which data are expressed in constant 1976 forint prices, and the German Democratic Republic, for which data are based on transferable roubles.

^d Plans for 1982 and 1983 for the German Democratic Republic (per cent increases), and the degree of plan fulfilment in 1982 (plan target = 100), were as follows:

	Plan 1982	Actual 1982	Plan 1983
Ministry for electrical and electronic engineering	7.7	100.8	8.5
Ministry for heavy machinery and equipment	5.7	100.8	5.2
Ministry for machine tools and processing machinery	8.7	100.8	8.4
Ministry for general earthmoving and transport machinery	6.7	100.7	5.1

* Socialist sector only.

† At current prices.

and extension of existing plant, consequent increases in the share of machinery and equipment relative to construction expenditures as such modernization expenditures rise. And in a restrictive investment climate, the need to improve the efficiency of plant places a premium on the speedy completion of investment projects, shortening of gestation periods, reductions in the share of uncompleted projects, with a view to commissioning the most up-to-date plant in the shortest possible time. Progress in these specific areas is summarized in part in table 3.4.6 and in the review by country which follows in sub-section (iv) below.

Given the lack of overall indicators of success, it is possible to shed some light on the second element by a scrutiny of recent trends in investment and fixed asset levels and structures as they relate in various ways to the process of technical change. As noted above, the policy of slower investment growth, implemented at the same time as a policy of accelerated technical change, has important implications with regard to the speed at which the technology content of new investment can be improved. In the countries under review, new investment has averaged some 10-12 per cent of the value of the existing stock of fixed assets per year, and somewhat less at the present time. Attention has already been

drawn to the apparent decline in the write-off rate of fixed assets over the 1970s. The consequent probable rise in the average age of fixed assets for this reason has been intensified by the fall in the share of fixed assets of less than five years old due to the slower growth of investment (table 3.6.16). But if the necessary transformation of the technical level of the economy is to be brought about with smaller investment resources than in the past - for instance, by concentrating on the modernization and reconstruction of existing plant - it is essential that those resources embody a higher average level of technology than was previously the case. Only in this way can the effects of slower investment growth on the rate of output increase be minimized. And as noted in sub-section (iii)-(a) below, in most countries the engineering industries, which are the key element in the transformation do not show the rapid turnover of fixed assets which might be expected to accompany rapid change in the structure of engineering goods (and hence investment goods) output. In this respect, the adjustment of planning and management systems to new conditions, and notably the encouragement of innovation in techniques, processes and product developments, may be the key element in investment policy, and indeed in overall growth policies, in the next decade.

3.4(iii) Investment management and policies

(a) Investment, construction activity and engineering supplies

Policies have been in force for some years to reduce the share of construction in the investment effort by concentrating on the modernization, reconstruction and extension of existing enterprises rather than on new production facilities. In general, these policies have had some success in Poland (under exceptional conditions), Romania and the Soviet Union, but in the other countries the share of machinery and equipment in total outlays has either remained unchanged (Czechoslovakia and the German Democratic Republic) or fallen (Bulgaria and Hungary) (table 3.4.6). The movement has been intensified in some countries (except Hungary and Poland) by the shift of investment resources away from the construction-intensive non-material sphere.

As a result of this, pressures to reduce the share of construction work in total investment, and the moderation and even absolute declines in investment growth overall, the construction sector experienced a substantial deceleration in annual output growth rates in 1981 compared with 1976–1980. Output rose only marginally in 1981 in Czechoslovakia (+0.2 per cent), and declined in Hungary (0.4 per cent). It declined in Poland (21.0 per cent) and Romania (6.8 per cent) (table 3.4.6). It probably fell further in Hungary (by an estimated 4 per cent) in 1982, and also in the other countries mentioned.

It was in these countries also that the share of construction activity in total investment allocations declined fastest (or, in the case of Czechoslovakia, did not rise). Czechoslovakia and Romania were the countries which registered the biggest shift in investment away from the construction intensive non-material sphere up to 1981 at least. Growth of construction output was also slower and decelerating in 1981 and 1982 in Bulgaria – and probably in the Soviet Union, where there was a 2.5 percentage point rise in the share of machinery and equipment in total investment in 1981 compared with the average of 1976–1980. Construction output was largely maintained in the German Democratic Republic in 1981 mainly due to strong growth in housing construction in that year. The general slowdown in construction industry performance was accompanied by a parallel but rather smaller decline in the output of the building materials industry in 1981 and 1982. Thus there was probably some easing of supplies of materials in the construction sector as a whole.

The same may have been true with regard to supplies of machinery and equipment for investment purposes. The relationship between the growth of investment demand for machinery and equipment relative to the domestic output of the engineering industry as a whole clearly improved in virtually all countries in 1981. The same was probably true in 1982 judged on the basis of the overall growth of investment. There were, on the contrary, severe cuts in imports of machinery and

TABLE 3.4.7

Structural shifts in investment allocations within the material sphere (A) within industry (B) and between the material and non-material spheres (C)
(Percentage points)

	Bulgaria			Czechoslovakia			German Democratic Republic		
	1979/ 1976–1980	1980/ 1976–1980	1981/ 1976–1980	1979/ 1976–1980	1980/ 1976–1980	1981/ 1976–1980	1979/ 1976–1980	1980/ 1976–1980	1981/ 1976–1980
A. Within the material sphere									
Industry	+0.3	+2.3	+1.3	+0.5	+1.1	+1.5	+1.5	+3.3	+3.6
Construction	-0.4	-0.4	-0.2	+0.8	+2.4	+1.4	-0.6	-0.9	-1.1
Agriculture	-0.9	-0.7	-0.8	-0.7	-1.6	-0.5	-0.5	-0.7	-0.9
Transport and communications	+1.0	-0.9	+0.2	—	-0.9	-1.3	+0.2	-0.7	-0.3
Trade ^a	-0.3	-0.3	-0.5	-0.5	-1.0	-0.9	-0.2	-0.7	-1.0
Other	+0.3	—	—	—	—	-0.1	-0.3	-0.4	-0.3
B. Within industry									
Energy	+0.4	—	-1.0	-0.1	+0.3	+0.2	-1.1	-0.2	..
Fuel	+0.1	+0.8	+1.2*	+2.2	+1.5	+2.2	—	—	..
Metallurgy	+0.4	+1.6	+0.9	+1.6	-1.1	-2.2	-0.3	+1.8	..
Engineering	+1.1	+3.4	+2.6	-0.3	+0.3	+1.5	+0.9	+2.1	..
Chemicals	+0.2	-3.9	+1.6	-2.0	-1.7	-1.0	+2.2	-0.3	..
Construction materials	+0.6	-0.1	-3.2	-0.4	-0.4	-1.1	—	+0.1	..
Wood, paper	-0.8	-0.2	-0.2	+0.3	+2.3	+1.7	..	..	..
Textiles	-1.0	-1.2	+0.8	—	-0.3	-0.5	—	-0.3	..
Other light ^b	—	-0.2	+0.2	-0.2	—	-0.1	-0.8	-1.2	..
Food	-1.9	-1.1	-1.9	-0.4	-0.2	-0.9	-0.9	-1.8	..
Other	+0.8	+0.8	-1.0*	-0.7	-0.6	+0.3	—	-0.3	..
C. Between the material and non-material spheres									
Material sphere	-0.3	-0.6	+0.3	-0.2	-0.6	+3.2	-0.3	-0.9	+0.2
	Hungary			Poland			Romania		
	1979/ 1976–1980	1980/ 1976–1980	1981/ 1976–1980	1979/ 1976–1980	1980/ 1976–1980	1981/ 1976–1980	1979/ 1976–1980	1980/ 1976–1980	1981/ 1976–1980
A. Within the material sphere									
Industry	-0.2	-2.0	-1.3	-2.3	-2.9	-4.3	+1.9	+1.4	+1.2
Construction	—	-0.3	-0.9	-0.1	-0.3	-1.9	+0.4	-1.7	-1.1
Agriculture	—	-0.7	+1.6	+2.2	+1.1	+4.3	-0.9	-0.7	+3.0
Transport and communications	+0.6	+1.4	-0.1	-0.4	+1.7	-0.7	-0.9	+1.5	-2.3
Trade ^a	-0.5	+0.9	+1.5	-0.1	—	+0.7	-0.5	-0.6	-0.8
Other	+0.1	+0.7	-0.8	+0.7	+0.4	+2.0	..	..	..

TABLE 3.4.7 (CONTINUED)

	Hungary			Poland			Romania		
	1979/ 1976-1980	1980/ 1976-1980	1981/ 1976-1980	1979/ 1976-1980	1980/ 1976-1980	1981/ 1976-1980	1979/ 1976-1980	1980/ 1976-1980	1981/ 1976-1980
B. Within industry									
Energy	+1.2	+4.1	+3.9	+1.5	+3.5	+2.8	-0.8	-0.6	+1.9
Fuel	+0.2	+2.9	+3.2	+1.0	+8.3	+7.7	-1.2	+0.3	+2.4
Metallurgy	+2.5	+3.2	+2.0	-2.4	-4.1	-7.5	—	—	-2.1
Engineering	-0.4	-1.1	-2.2	—	-1.7	—	+1.1	+3.5	+1.0
Chemicals	-2.8	-3.9	-2.0	+1.2	-1.6	-1.7	+2.3	-1.4	-0.4
Construction materials	—	-1.2	-2.4	-1.0	-1.1	-1.3	+0.2	-0.1	-1.0
Wood, paper	..	..	..	-0.4	-1.2	-1.2	-0.1	-0.7	-0.7
Textiles	-0.7	-1.1	-0.6	-0.4	-0.8	-0.8	-0.3	+0.4	-0.2
Other light ^b	-0.6	-1.1	-0.2	+0.2	-0.1	-0.2	—	-0.2	-0.5
Food	+0.6	-1.8	-1.7	+0.3	-0.8	+2.2	-0.6	-0.8	+0.2
Other	—	+0.1	—	-0.1	-0.3	-0.1	-0.5	-0.5	-0.6
C. Between the material and non-material spheres									
Material sphere	-0.3	-0.7	-0.2	-2.2	-2.8	-4.1	+0.4	+0.8	+1.2
	Soviet Union								
	1979/ 1976-1980	1980/ 1976-1980	1981/ 1976-1980	1979/ 1976-1980	1980/ 1976-1980	1981/ 1976-1980	1979/ 1976-1980	1980/ 1976-1980	1981/ 1976-1980
A. Within the material sphere									
Industry		-0.5			+0.1			+0.6	
Construction		+0.1			—			-1.6	
Agriculture		-0.2			-0.2			-0.8	
Transport and communications		+0.5			+0.2			+0.1	
Trade ^a		+0.2			-0.2			+1.7	
Other		..			..			..	
B. Within industry									
Energy		-0.1			+0.2			—	
Fuel		+0.8			+2.4			+3.8	
Metallurgy		+0.1			-0.3			-0.6	
Engineering		-0.2			+0.1			+0.8	
Chemicals		-0.2			-1.5			-2.2	
Construction materials		+0.1			-0.1			-0.3	
Wood, paper		-0.2			-0.4			-0.2	
Textiles		—			-0.1			—	
Other light ^b		-0.2			—			—	
Food		-0.1			—			-0.4	
Other		—			-0.2			-0.8	
C. Between the material and non-material spheres									
Material sphere		+0.2			+0.1			+0.6	

Sources: As for table 3.4.1.

Note: Changes do not always sum to zero due to rounding.

^a For Romania and the Soviet Union includes other (non-specified) sectors.^b Except for the Soviet Union, includes clothing, leather and footwear, glass and ceramics, and printing, plus, in the case of the German Democratic Republic and Hungary, wood and paper. For the Soviet Union, includes clothing, leather, furs and footwear only.^c Including investment by collective farms in industrial activities.

equipment in most east European countries in the former year. The possible exceptions were Bulgaria and also the Soviet Union, where such imports in value terms continued to increase. However, in volume terms they may have increased only marginally or even declined slightly in the Soviet case.

The deceleration in investment as a whole has thus not proportionately affected the output of engineering products. Nevertheless, if technological levels are to be raised to the extent necessary to compensate the decline in investment levels, structural changes in the output of productive machinery and equipment will be necessary at an accelerated rate.

No direct information is available at sub-branch level concerning the introduction of new technology. Nevertheless, the high priority already given to investments in the engineering branch, which has progressively increased its share of total industrial investments in almost all countries between 1975 and 1981, should have been an

important permissive factor in ensuring the availability of such technology.

Clearly, a change in the pattern of engineering output towards high technology machinery would need to be accompanied by changes in the structure of its own productive equipment. Little information is available at sub-branch levels to evaluate progress in this respect. As an indirect indicator of structural change in the output of the branch, it is possible to examine the extent of capital write-off in the branch compared with industry as a whole. This can be done, in the absence of direct information on write-off rates, by comparing the volume of investment in a given year with the *change* in the volume of fixed assets in the same year in the industry sector and in the engineering branch respectively. The difference, expressed as a percentage of the total volume of fixed assets in that year in the industry sector as a whole and in the engineering branch, approximates to capital write-off rates for the sector and branch

respectively. This crude measure can then be used to illustrate the speed of change of fixed asset structures in engineering compared with industry as a whole.²⁴⁵

In fact, tentative estimates on the above basis suggest that, within a generally downward movement of fixed assets write-off rates in industry as a whole, the write-off rate in engineering seems to have risen relatively to industry in Bulgaria, Czechoslovakia and (up to 1976 the last year for which data are available) in the German Democratic Republic. In the other countries, the write-off rate seems to have experienced a decline as noticeable or even greater than in industry as a whole.

(b) *Changes in investment allocations by sector and branch*

Policy towards the sectoral and branch allocation of investment resources has shown some marked similarities throughout eastern Europe and the Soviet Union. In most countries, the material sphere in 1981 has taken up an increasing share of available funds compared with the period 1976–1980 (table 3.4.7). The movement was particularly big in Czechoslovakia in 1981, but has been rather small in the other countries. Indeed, in Hungary the share of the material sphere in total investment declined slightly in 1981 compared with 1976–1980, while in Poland it continued to decline in 1982 (as in 1979–1980) compared with the second half of the 1970s. Within the material sphere, industry has been the main beneficiary of shifts in investment patterns, as against the 1976–1980 average, in all countries but Hungary and Poland. The reallocation has resulted in smaller shares for all the remaining sectors in most of these five countries – with the exception of agriculture in Romania and trade and communications in the Soviet Union. In the exceptional cases of Hungary and Poland, where the share of industry declined by 1.3 and 4.3 percentage points respectively, the main beneficiaries of the shift were agriculture and trade in Hungary, and agriculture in Poland (where the 4.3 percentage point rise exactly reflected the fall in industry's share).

Within industry, the principal difference in 1981 compared with 1976–1980 was the rise in the share of allocations to the fuel industry (all six countries excluding the German Democratic Republic for which data for 1981 are not yet available) and the energy sector in Czechoslovakia, Hungary, Poland and Romania. This has been mainly compensated by a shift away from energy intensive branches – notably chemicals (all countries but Bulgaria), construction materials (all countries) and metallurgy (all countries but Bulgaria and Hungary). Smaller shifts away from most of the remaining branches have also been necessary to provide room for the expansion in the share of fuel.

(c) *Price changes for investment works*

A short review of investment pricing policy in the centrally planned economies was presented in the *Economic Survey of Europe in 1980*.²⁴⁶ On the basis of information covering the years 1970–1979, it concluded that pricing policy had been used quite extensively to influence the technical structure of investment. In those countries for which data were available, the price of construction works had risen by far more (or declined by less) than prices of machinery and equipment – in line with policies already discussed to reduce the share of

construction work in total investment. There was also some limited evidence that relative price movements had coincided in some countries with changes in the sectoral distribution of investment (i.e. the sectoral implicit price deflator for investment goods had risen where the sector's share of investment had fallen or *vice versa*). However, this was not the case with regard to branch allocations within industry.

Further information is now available for some countries not included in the previous investment work price review, while information on others has been updated (table 3.4.8). The data illustrate relatively recent price movements in Bulgaria (in 1980), in Poland (in 1980 and 1981) in the German Democratic Republic (at some time between 1975 and 1980) and in Romania (at some time between 1977 and 1980).²⁴⁷ In addition, some further but small price adjustments took place on a year-to-year basis in Czechoslovakia and Hungary in 1980 and 1981.

Between 1975 and 1980, the change in the price of investment goods was smaller than the implicit gross social product deflator in Bulgaria, Czechoslovakia, the German Democratic Republic and Poland. It was however somewhat bigger in Romania. The same was true with regard to price changes in 1981. Thus the slowdown in investment growth during the second half of the 1970s appears to have been implemented exclusively by direct real resource allocation measures rather than by price adjustments, except perhaps in Romania. Nevertheless, in all cases the biggest element of the price rise fell upon construction activity. Indeed in Bulgaria, the big rise in total investment and construction activity prices was accompanied by a decline in the price deflator for machinery and equipment. Largely for this reason, the construction intensive non-material sphere has experienced bigger rises in the prices it pays for investment work than the material sphere in all countries – in accordance with investment re-allocations patterns in most countries.

Within the main sectors of the economy, industry experienced the biggest rise in the prices paid for investment work in Bulgaria (together with agriculture) and Czechoslovakia. In Hungary, Poland and Romania the price of agricultural investment rose fastest, followed by the prices for investment work paid by the construction sector, in both the period between 1975 and 1980 and in 1981. In the German Democratic Republic, investment prices paid by the construction sector show the biggest rises together with those paid by agriculture. The prices paid by industry are among the slowest growing.

More limited data is available on the price of investment goods paid by branches within industry. In Hungary, the prices paid by the chemical industry for its investment rose considerably more than those paid by other branches, followed by prices paid by the construction materials and the fuel industry. The price rise in Poland was concentrated on investments made by the energy branch together with engineering, followed by the price of work for the construction materials, metallurgy and chemical branches, throughout 1975–1981. Except for energy, a similar pattern emerges for 1981. In Romania, the biggest price changes between 1977 and 1980 took place for investment by the fuel, construction materials and light industry branches. There is therefore still only a weak relationship between movements in the price of investment work and changes in the structure of

²⁴⁵ Because no specific allowance is made for sector branch differences in the ratio of capital repairs to investment and other factors, including inter-branch differences in the relation between fixed assets brought into operation and investments, the absolute figures are not necessarily meaningful. Trends over time should, however, be adequately reflected.

²⁴⁶ *Op. cit.*, pp. 148–151.

²⁴⁷ Current price investment data are not published for the German Democratic Republic or Romania. The shift from presentation of data in an earlier year's prices to presentation of data in a subsequent year's prices enables the price change between the two years to be shown, but not the precise year in which it took place.

TABLE 3.4.8

Implicit price deflators for investment expenditures

I. Implicit investment price deflators of total, machinery and equipment and construction expenditures 1970-1981
(Indices, 1970 = 100)

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Bulgaria											
Total	100	100	100	100	100	99	100	98	99	110	109
Machinery, equipment	100	100	100	100	100	99	100	100	99	89	89
Construction	100	100	100	100	99	100	100	100	100	132	132
Czechoslovakia											
Total	99	99	99	98	98	98	88	87	88	88	88
Machinery, equipment	100	99	99	98	98	98	83	83	84	84	85
Construction	99	99	99	98	98	97	90	90	90	90	90
Hungary											
Total	102	106	108	110	114	118	123	127	130	130	133
Machinery, equipment	100	105	108	109	113	117	121	123	125	123	125
Construction	103	108	109	111	115	120	126	133	137	137	141
Poland											
Total	110	110	110	110	112	126	128	130	130	144	148
Machinery, equipment	103	103	103	103	103	105	107	109	109	120	124
Construction	116	116	117	117	121	147	151	152	153	171	176

II. Implicit investment price deflators by sector, type of expenditure and by industrial branch
(Indices, base years shown = 100)

	Bulgaria		Czechoslovakia		Hungary		Poland		German Dem Rep.		Romania	
	1980/ 1975	1981/ 1980	1980/ 1975	1981/ 1980	1980/ 1975	1981/ 1980	1980/ 1975	1981/ 1980	1975/ 1967	1980/ 1975	1977/ 1963	1980/ 1977
By sector												
					<i>a</i>				<i>b</i>	<i>c</i>	<i>b</i>	<i>c</i>
Industry	107	98	88	101	110	102	131	103	104	106	97	105
Construction	95	100	88	100	111	102	125	102	113	112	87	104
Agriculture	107	100	89	100	119	104	140	103	98	105	105	107
Material sphere	106	98	89	101	114	103	128	103	103	107	99	105
Non-material sphere	122	100	92	100	115	104	137	104	115	115	112	114
Total	110	99	90	100	114	103	130	103	105	108	101	106
By type of expenditure					<i>a</i>	<i>a</i>			<i>b</i>	<i>c</i>	<i>b</i>	<i>c</i>
Machinery, equipment	89	99	85	103	109	102	117	103	101	107	91	102
Construction	132	100	93	100	119	104	141	103	106	114	111	112
By industrial branch			1977/1971		<i>a</i>	<i>a</i>					<i>b</i>	<i>c</i>
			<i>b</i>									
Energy	..	..	96	..	109	102	130	101	..	..	96	107
Fuels	..	..	95	..	115	103	123	100	..	..	101	107
Metals	..	..	94	..	112	102	125	109	..	..	98	104
Engineering	..	..	94	..	113	102	130	104	..	..	94	103
Chemicals	..	..	94	..	123	103	124	103	..	..	97	104
Construction materials	..	..	94	..	116	103	128	101	..	..	100	105
Light	..	..	93	..	107	104	127	102	..	..	93	105
Food	..	..	94	..	106	102	128	101	..	..	99	106
Total	107	98	95	..	112	102	126	103	104	106	97	105

Sources: As for table 3.4.1

^a Unit prices.^b Derived from coefficients of 1975 values expressed in the indicated final and base year prices respectively.^c Derived from coefficients of 1980 values expressed in the indicated final and base year prices respectively.

investment. Perhaps surprising is the relatively big rise in the price of investments by the fuel and energy industry, together with engineering. These have normally been priority investment sectors and to an increasing degree are still so.

Price changes for investment work in aggregate have not been large in most countries during the period between 1975 and 1981 – a 9 per cent rise in Bulgaria, a decline of 10 per cent in Czechoslovakia, and a rise of 6–8 per cent in the German Democratic Republic and Romania. In Hungary and Poland, however, the price deflator increased by somewhat more – by 41 per cent

and 76 per cent respectively over the same period. Perhaps surprising in view of the increasing attention paid by the authorities to price formation policy in recent years is the relatively small price adjustments for investment works made in Hungary – only half the size of those in Poland.

Limited data for 1982 suggest that there may have been an upward movement of about 3 per cent in Czechoslovakia and also in Hungary. In Poland, investment data in current prices for the year suggest that the price of investment work at least doubled in 1982.

3.4(iv) Investment developments

In *Bulgaria*, year-to-year variations in investment growth rates have been traditionally rather sharp, ranging between minus 2.3 and plus 14 per cent during 1976–1980. This pattern was continued into the current five year plan period, with gross investment rising by 10.4 per cent in 1981 and falling at a similar rate in 1982. Plans for 1983 appear to indicate a sharp recovery of around 7 per cent. The level of outlays in 1981 and 1982 together was about 3 per cent above the implied five-year plan targets for the two years. The further increase scheduled for 1983 will, if carried out, bring actual investment outlays considerably above the five-year plan targets estimated for the year. Up to 1982, generally buoyant investment performance was accompanied by declining NMP growth rates compared with 1976–1980, but they were still, at 5.0 and 4.0 in 1981 and 1982 respectively, the highest in the region. Despite the jump in investment in 1981, the results for 1982 and plans for 1983 indicate a further decline in the investment ratio compared with 1976–1980 to approximately the levels foreseen in the five-year plans 1981–1985.

Efforts to improve the technical structure of investment – particularly by cutting down new project starts and hence the share of construction work in total investment – had a marked success in 1981. In that year, investment in machinery and equipment grew by over 20 per cent, compared with a fall of about 4.5 for construction. In 1982 however, the trend was reversed. Within the 10 per cent decline in the volume of total investment expenditures, construction work appears to have increased slightly, indicating a significant fall in the share of machinery and equipment expenditures (to 30 per cent). This is somewhat lower than the average of 1976–1980 or in the first two years of the current plan period. Within total investment, some 67 per cent²⁴⁸ was used for the modernization, reconstruction and extension of existing plant. This was considerably higher than the 44 per cent reported for 1976–1980.

However, efforts to speed up the commissioning of new plant have had only limited success. The share of fixed assets brought into operation in total investment has declined steadily since the late 1970s (table 3.4.9). A 2.7 percentage point decline in 1980 was followed by a further fall in 1981 – to 87.3 per cent or some 2.8 percentage points below the average for 1976–1980.

Investment in the material sphere of the economy amounted to some 75 per cent of the total in 1982 – probably expressed in current prices. This compares with about 72.3 per cent in current prices in 1981. Thus, there may have been a substantial shift in favour of the material sphere. Full data on the sectoral distribution of investment are unavailable beyond 1981. The latter year witnessed the first increase in allocation to the material sphere for several years. The volume of allocations to industry were still higher than the average for 1976–1980, though they fell between 1980 and 1981. Within industry, the late 1970s saw increased allocations to chemicals. This trend was reversed in 1980 but was strong in 1981. In particular capital expenditures on fuel have been accorded high priority in the interest of promoting balanced economic development.

In the *plans for 1983*, the Bulgarian authorities apparently expect a further sharp rise in total investment. This would bring the level to about 2 per cent above that implied for the year in the five-year plan, and maintain the investment ratio at about the same level as in the previous year. Together with the lower growth rate retained for NMP this would push up the ICOR to

its highest point to date, but little higher than was implied in the five-year plan for the 1981–1985 period as a whole. The share of investment in the material sphere is set at 71.6 per cent of the total at current prices – about the same as in 1981. The main emphasis is once more planned to be placed on speeding up the commissioning of new plant. The share of unfinished construction in total investment is expected to fall by 7.6 percentage points.

In *Czechoslovakia*, 1982 was the second successive year of falling investment in volume terms (estimated at 4.0 per cent). The decrease was, however, slightly smaller than in 1981. Investments in 1982 were about 3.5 per cent below the level originally projected for the year in the five-year plans 1981–1985. NMP growth estimates suggest that output was probably smaller than expected in 1982. The investment ratio fell to a figure slightly higher than foreseen by the five-year plan, but in line with that expected in the 1982 annual plan. The investment cost of growth in 1982 was high, as indicated by the steep rise in ICORs. The year 1982 was a year of continuing adaptation to new conditions and the further tightening of investment was clearly a major contributor to the process.

Efforts to improve investment sector efficiency are an essential element in the process of adaptation. A first priority has been to reduce the volume of unfinished construction work. In 1981 however, the share of fixed assets brought into operation compared with investment outlays fell slightly, though a further marked improvement was registered in industry, construction, transport and communications. This suggests that the ratio worsened notably in the non-material sphere of the economy. The strict controls introduced on new project starts, and efforts made to reduce gestation periods, seem to have had more success in 1982. The number of new starts decreased by 15 per cent in that year, the volume of unfinished construction was cut and the average gestation period shortened. Nevertheless, the level of unfinished construction is still considered too high.²⁴⁹ With regard to the technical structure of investment, the share of machinery and equipment fell slightly in 1981 in both value and volume terms (in fact investment in machinery and equipment fell nearly three times as fast as investment in construction activity). In 1982, information in current prices suggests a sharp jump in the share of the machinery and equipment component from 40.9 to 44.3 per cent. This also suggests that investment on modernization, reconstruction and extension of existing plant has gone ahead fast, in line with official policies.

Structural change in investment is seen as the essential prerequisite for achieving the changes in the structure of output planned over the medium term. In 1981, the share of investment in the material sphere rose by nearly 4 percentage points (to 70.5 per cent of the total compared with a 65 per cent average in 1976–1980). Within the material sphere, a further rise in the share of industry and also agriculture was reported – mainly at the expense of the construction industry, transport and communications. This movement continued the trend relative to 1976–1980. Within industry, the share of fuel and chemicals increased further relative to 1980, together with engineering – mainly at the expense of the consumer industries, construction materials and the metallurgical branch.

Plans for 1983 foresee a further contraction in total investment volume of about 1.7 per cent. If economic growth targets are achieved, the investment ratio would fall further to about the level implied for 1983 by the five-

²⁴⁸ *Rabotnichesko delo*, 2 January 1983.

²⁴⁹ *Rudé právo*, 29 January 1983.

TABLE 3.4.9

Fixed capital brought into operation

Country and period	Billions of national currency units					Percentage of gross fixed capital formation				
	Total	Industry	Construction	Agriculture and forestry	Transport and communications	Total	Industry	Construction	Agriculture and forestry	Transport and communications
Bulgaria^a										
1976-1980	5.576	2.161	0.178	0.820	0.730	90.1	83.8	92.2	99.0	95.3
1979	5.491	2.216	0.163	0.769	0.740	91.0	86.4	90.1	98.3	91.4
1980	6.353	2.865	0.162	0.819	0.683	88.3	95.1	91.5	91.5	85.5
1981	6.850	2.542	0.193	0.950	0.841	87.3	78.1	91.8	96.6	87.9
Czechoslovakia										
1976-1980	134.89	50.97	6.65	16.71	17.82	94.2	93.9	90.6	101.5	92.0
1979	131.51	50.78	7.12	16.49	18.24	88.8	88.5	84.3	99.4	89.5
1980	146.26	56.29	8.94	16.57	18.87	97.4	94.7	86.7	103.2	100.2
1981	138.9	58.1	9.77	17.14	16.45	96.9	99.1	108.0	101.7	104.4
German Dem. Rep.										
1976-1980	44.4	22.3	1.6	5.1	4.2	92.5	89.9	100.0	98.1	97.7
1979	46.7	23.7	1.5	5.0	4.0	93.2	88.8	115.4	98.0	88.9
1980	..	..	..	..	..	..	..	..	..	..
1981	..	..	..	..	..	..	..	..	..	..
Hungary^a										
1976-1980	162.4	61.6	3.9	18.9	23.0	87.8	84.2	68.4	73.0	93.1
1979	182.5	73.1	5.8	26.5	26.2	89.5	90.8	93.5	93.6	93.6
1980	177.7	65.5	4.8	24.4	28.7	93.7	93.2	92.3	94.2	106.3
1981	170.0	59.7	4.8	27.9	22.8	93.0	90.6	118.4	94.0	92.8
1982	171.8	59.9	3.5	28.2	21.9	92.7	87.9	88.2	92.8	88.7
Poland^a										
1976-1980	535.1	208.2	32.7	116.4	54.4	83.2	83.0	101.2	109.2	92.7
1979	568.7	204.4	39.1	128.1	57.1	88.5	88.6	126.5	110.9	100.0
1980	493.4	160.5	30.5	124.2	56.0	81.4	76.6	112.1	123.3	92.3
1981	432.9	125.1	20.6	114.2	41.6	89.8	78.9	132.1	126.0	106.9
Romania										
1976-1980	153.59	69.50	10.57	22.06	17.01	82.4	75.8	95.9	85.8	85.8
1979	155.31	68.60	11.95	20.71	16.17	76.0	65.8	93.7	77.2	79.3
1980	174.45	82.78	9.24	22.94	21.64	82.9	77.3	95.8	81.9	85.6
1981	174.25	86.41	7.44	27.65	15.56	89.1	85.7	105.8	89.8	78.9
Soviet Union										
1976-1980	117.60	..	..	..	..	92.7	..	..	..	..
1979	120.1	..	..	..	..	92.0	..	..	..	..
1980	132.0	..	..	..	..	98.7	..	..	..	..
1981	132.6	..	..	..	..	95.5	..	..	..	..

Sources: As for table 3.4.1.

^a Current prices; for Hungary, refers to socialist sector only.

year plans. Construction activities are expected to fall twice as fast as total investment – again, an objective consistent with attempts to limit new project starts in favour of modernization, reconstruction and extension work. It is estimated that, if plans are achieved in 1983, the average project gestation period will have been cut by one year during the first three years of the current five-year plans. Priority will be given to 105 individual projects notably in the fuel and energy branches, the agro-food complex and those branches contributing to state target-oriented programmes or which are export-oriented. Increased allocation to agriculture implied by these priority objectives could, as in 1981, slow down the previous tendency to reduce the share of the farm sector in total material sphere investments.

Investment in the German Democratic Republic fell in 1982. Up to 1981, its level appeared to have been somewhat higher than was implied for that year by the five-year plan provisions, but the 1.6 per cent reduction in investment in 1982 leaves it only slightly higher than planned. Somewhat slower than expected NMP growth – particularly in 1982 – has maintained the investment ratio at a higher level than planned. These movements

have also brought about some rise in the investment costs of growth. Following the sharp jump in 1976, ICORs diminished in each year to 1981, but this downward movement was reversed in 1982.

Investment activity is expressly and directly linked in the German Democratic Republic to the promotion of labour productivity. The increase in fixed assets brought into operation was 5.0 per cent. No annual figures have been made available since 1979. But the rise in fixed assets brought into operation as a share of investment expenditures clearly rose in 1982 if not earlier. The share of construction work in total investment in 1982 is not yet available, but in industry it was given as “less than 25 per cent” in enterprises subordinated to the industrial ministries. This represents an apparently big decrease from the 31.5 per cent reported for total industry in 1981 and suggests that the share of machinery and equipment may have risen substantially.

Investment is currently channelled to an increasing extent towards specific efficiency-enhancing objectives. In 1982, 16 per cent of all expenditures were allocated to micro-electronic and robot devices, and to the enrichment of raw materials. Some 21,900 robots were in use

by the end of the year. In total about 40 per cent of all investment, and about one half of investment in manufacturing industry, is now allocated to "rationalization" – the improvement of existing production techniques.

With regard to the sector and branch structure of investment, no information was given in the plan fulfilment report for 1982. There was an acceleration in housing construction in 1981 but a fall in the absolute level of completions in 1982, suggesting that the sharp (1.1 percentage point) rise in allocations to the material sphere registered in 1981 compared with 1980 may not have persisted into 1982.

In 1981 there was a further small rise in the share of allocations to industry, which took a 3.6 percentage point higher share of investment than on average during 1976–1980. Within industry, no data are available beyond 1980, but the stress placed upon rationalization as a long-term as well as a current objective suggests further rises in the share of engineering, the main technical supply branch.

Plans for 1983 foresee a large reduction in investment of 13.4 per cent. This would indicate a return to a similar absolute level of allocations as in 1975/1976. It would imply a further large fall in the investment ratio – to 22 per cent from an average level of around 30 per cent in 1976–1980 – and if the 4.2 per cent NMP growth target is achieved, a reduction in the ICOR to about 5.3 per cent. This would continue the steady post-1975 decline in its level which was interrupted in 1982. Priority is again given to rationalization of production processes, and a 16 per cent rise in expenditures by enterprises themselves to this end is listed as a priority target. Investments are to be concentrated upon energy substitution, the development of exports, the development of fuel and energy potential, the implementation of measures to promote the recycling of raw materials, and the accelerated introduction of economically effective scientific and technical innovations. The pace of housing construction is to fall, suggesting a further reduction in the share of the non-material sphere in total investment.

In *Hungary*, the fall in investment expenditures (socialist sector only) in 1982 amounted to an estimated –2.5 per cent in volume terms. This was somewhat smaller than the contractions registered in the two previous years (6.7 per cent in each) and a marked change from the average 4.4 per cent growth registered in 1976–1980. Together with a roughly 1.5–2.0 growth of NMP, the investment ratio continued the decline which began in 1979 and, at 31.5 per cent, reached a level lower than at any time in the previous 12 years. The ICOR, however, as in 1981, remained at levels considerably higher than the average for 1976–1980. Within total allocations, the reduction in the share of machinery and equipment continued. Such expenditures in 1982 accounted for 38 per cent of the total in constant prices – compared with about 40 per cent during 1976–1980. Thus, new construction work is still taking up a significantly larger share of total investment expenditures than planned. Despite the maintenance of construction work levels in the total, the sustained slowdown or decline in investment has led to some improvement in recent years in the relationship between fixed capital brought into operation and gross fixed capital formation compared with 1976–1980. The percentage share of the former in the latter has increased from 87.8 per cent to an average of about 93 per cent during 1981/1982, though these represented marginal declines on year earlier figures in both years. This again, suggests that little improvement in reducing gestation periods has taken place since 1980. However, virtually no information on progress in these respects was given in the plan

fulfilment report for 1982. Some light on this is shed by data on large-scale investments. Estimates suggest that the value of total large scale investments, which reached 29 billion forints in 1978 (some 16 per cent of total investment expenditures), fell to about 20 billion forints in 1982 (13 per cent of the total). In fact, only 3 large-scale constructions were started in 1982. But of 23 large-scale investment projects under construction at the beginning of 1982, only 3 were put into operation in the same year. Thus, the limited evidence suggests that while the number of large projects has been cut, a good deal of dispersion of effort may have persisted in smaller construction-intensive projects not subject to close central scrutiny.

Sectoral and branch distribution estimates for 1982 indicate that the share of the material sphere in total investment rose somewhat in 1981 and declined in 1982. The estimates for 1982 suggest that, in sharp contrast with other countries of the region, some fall in the share of industry in material sphere investment has taken place. This reinforces a movement already evident in 1980/1981 compared with the average for 1976–1980. The main beneficiary sector was agriculture, the trade and procurement group and, in 1982, transport and communications. Within industry, the estimates suggest a 1.6 percentage point decline in the share of energy compared with 1981, though in 1982 it was still 2.3 points about the average level in 1976–1980. The share of fuel may have remained the same as in 1981; in the latter year, the fuel and energy branches combined had increased their share in total investment by almost 6 percentage points as compared with 1976–1980. This was achieved at the expense of a 2.2 percentage point decline in the engineering branches' share of industrial investment compared with 1976–1980, as well as big declines in the share of the construction materials branch. These movements are consistent with official statements which mentioned the fact that, in accordance with priorities set, investment subsidies were paid to the fuel, oil and gas extraction and energy branches, for waste recycling, to transport, foods and grain storage and distribution, and also for educational purposes.

Plans for 1983 foresee a further intensification of the tight investment policies planned over the last few years. Although no precise annual plan figure was published in volume terms, official statements suggest a 10 per cent cut in investment in 1983.²⁵⁰ This would bring about a decline in the investment ratio of a further 4 percentage points – to 28 per cent. At this level it would stand some 5 percentage points below the level of the five-year plan. No new large projects starts will be authorized. It was also announced that, where an investment project contains a large construction component, authorization for its start will be given only in exceptional cases.

In *Poland*, the level of investment in 1982 fell by a further 16 per cent to an estimate 348 billion zloty in 1977 prices – the lowest level since 1974. The decline has been very rapid since 1978, the peak year of investment, when the figure was nearly twice as high as in 1982. The investment ratio in Poland in 1982 fell as low as 26.1 per cent, compared with 40.5 per cent in 1975 and an average of 36.1 per cent during 1976–1980. In fact, figures reported in current prices indicate that the value of investment in the socialized economy – about 90 per cent of total investment – was 816 billion zloty in 1982.²⁵¹ Of this, construction expenditures amounted to a still very high 62.4 per cent of the total, and machinery and

²⁵⁰ *Népszabadság*, 18 December 1982.

²⁵¹ Suggesting that investment prices more than doubled during 1982.

equipment expenditures to 33.5 per cent. Both the fall in total investment and the fall in the share of machinery and equipment can be directly traceable to import cuts. Engineering output was sharply reduced in 1982 as imported raw materials and components dried up, and the steep 15 per cent fall in imports of machinery and equipment in the same year further tightened the supply of investment goods.

Published statements suggest that no new project starts have been initiated in the most recent years. About 1,500 projects, large and small, have been suspended, involving the freezing of assets worth 130 billion zloty – about one third of current investment levels at 1977 prices. Of completions planned for 1982, only 60 per cent were put into operation.

Data for 1981 show that the cuts have affected the material sphere of the economy more than the non-material sphere compared with the average for 1976–1980. In that year there was a further fall in the share of the material sphere in total investment of 1.3 percentage points, which represented a decline of more than 4 percentage points below the average for 1976–1980. The pattern was rather similar, within the material sphere, with regard to the share of allocations for industry. In 1981, industry's share was 4.3 percentage points lower than the average in 1976–1980. By contrast, the share of agriculture had risen by the same amount. Within industry, similarly substantial changes in the structure of investment took place. Though there were small falls in the share of fuel and energy in the total compared with 1980, these two branches together accounted for a share of investment more than 10 percentage points higher than the average for 1976–1980. The share of metallurgy fell by 7.5 percentage points. Of the remaining branches, the food industry increased its share by 2 percentage points while all other branches registered losses ranging between 0.1 and 1.7 percentage points compared with the 1976–1980 average.

Plans for 1983 indicate a reversal of the falling trend of investment with a 1.6 per cent rise in volume terms. Almost all these allocations will be spent on the completion of existing projects, with only 3 new starts planned. The 73 larger projects under construction will all be directly managed by the central authorities. Attention will be concentrated, as in the recent past, on the food complex (agriculture plus the food processing branch) which will receive 28 per cent (stated to be 270 billion zloty) of all material sphere investment. About 14 per cent of investment will be allocated to the fuel and energy complex. There will also be significant allocations to housing – stated to be some 280 billion zloty or 29 per cent of total investment. It has been decided that no additional projects will be frozen in 1983, but further cuts may be made to others currently under construction.

In *Romania*, the fall in investment in 1982 amounted to 2.5 per cent – compared with a 5 per cent rise planned for the year. This followed a 7 per cent decline in 1981. The investment ratio – which, although the highest in the region in the early 1970s, has fallen back steadily since 1980, and declined by a further 2 points to 35.9 per cent in 1982. This is 4.6 percentage points lower than the average for 1976–1980. The investment costs of growth, which have been much lower than in other countries of the region because of past high NMP growth rates, have more than trebled if the ICORs of 1981 and 1982 are compared with the average of 1976–1980. The decline in investment gave rise to a further upturn in the volume of fixed assets brought into operation compared with investment expenditures – 89.1 in 1981 compared with 82.9 per cent in 1980. Although there was no repeat of the big increase in fixed assets brought into operation which took place in 1980, the ratio had by 1981 improved

sharply over the average for 1976–1980, maintaining the accelerated rate of commissioning of new plant which began in the final year of the five-year (1976–1980) plan period.

In 1981, a further small shift towards investment in the material sphere took place – as in most other countries. Within the material sphere, there was a substantial rise (of 3.7 percentage points) in agriculture's share compared with 1980 – to a level 3 full percentage points higher than in 1976–1980. This was mainly at the expense of investments in transport and communications, where there was a contraction of 3.8 percentage points over 1980. The small decline in industry's share still left its proportion in total investment over 1 point higher than in 1976–1980. Within industry, there was a big shift in resources towards energy (2.5 percentage points) and fuels (2.7 percentage points) compared with 1980. Thus the two branches increased their share by 4.3 percentage points over the average for 1976–1980 – mainly at the expense of metallurgy and all other sectors but engineering and the food industry. No comparable figures are available for the sectoral allocation of investment in 1982. However, a breakdown at current prices given in the plan fulfilment report indicates that the cuts in overall investment may have fallen principally upon the industrial sector. These resulted from big increases in the share of transport and communications following cuts during 1981.

Plans for 1983 foresee a small rise in investment (0.7 per cent) which, if the NMP growth target is achieved, would involve a further fall in the investment ratio. The plan document continues to stress the importance of accelerating the rate of project completions, and the timely commissioning of new productive plant. The central task for 1983 in the sphere of investment is thus the putting into operation of more than 500 major industrial and agricultural projects (somewhat less than the 568 projects wholly or partly commissioned in 1982). It has been announced that no work on new projects will begin – apart from a number of specially approved ones – until all those under construction are completed.

Investment developments in the *Soviet Union*, where allocations rose in volume terms by some 2 per cent in 1982, contrast sharply with the decline in all countries of eastern Europe. The increase was in fact over twice as high as the 0.9 per cent rise planned and leaves investment about 2.7 per cent above the level expected under the 1981–1985 five year plan provisions. A trend towards some degree of overfulfilment of investment plans, which also appeared in 1976–1980, thus continues. Nevertheless, investment has grown less rapidly than NMP, and the investment ratio, at 28.8 per cent, continued a small but steady decline which began in the early 1970s and has persisted, with some interruptions, until the present. However, the investment cost of growth, as reflected in the ICOR, continued at considerably higher levels than expected under the five-year plans for 1981–1985.

Improvements came about in concentrating investment resources in 1982. The share of fixed assets brought into operation in total investment, which fell to 95.5 per cent in 1981, still remained at a higher level than the average for 1976–1980 (92.7 per cent), and there was a further improvement (to an estimated 98.7 per cent) according to preliminary figures for 1982. It was stated in the plan fulfilment report that the share of unfinished investment in the total fell in 1982, but that the improvement was not sufficient. For state investments, the ratio fell from 86.3 per cent in 1981 to 85 per cent in 1982. There was a further increase in the share of machinery and equipment in total investment at least up to 1981 (expenditures on machinery and equipment grew

twice as fast as expenditures on construction work), to reach a share 2.3 percentage points above the average level for 1976–1980.

The structural pattern of investment in 1981 changed very little but shows a further shift of resources (0.5 percentage points) towards the material sphere. Within the material sphere, the share of industry increased slightly, while those of agriculture and especially construction decreased. The main net beneficiary sector was trade and related services, which rose to a level 1.5 percentage points above the average for 1976–1980. This is in line with a decree published in 1981 specifying improvements in the distribution and retail trade network. The flat trend in housing construction suggests that some further increase in the share of the material sphere may have taken place in 1982 also. With regard to allocations to industrial branches in 1981, there was a further shift of 1.5 percentage points in favour of fuel, the share of which in that year was close to 4 percentage points higher than in 1976–1980. The share of chemicals fell by another 0.7 percentage points in 1981 – to a level 2.2 percentage points below 1976–1980. No information on the sectoral and branch distribution of investment

allocations is available for 1982.

Plans for 1983 call for a further increase in gross fixed capital formation to a level 3.2 per cent more than recorded for 1982. This would bring about a further decline in the investment ratio, and also some improvement in the ICOR if the NMP growth targets of 3.3 per cent is attained. The ICOR would however remain at a higher level than implied by the five-year plan targets. It is planned to bring about a big further rise in the share of machinery and equipment expenditures in the total – to 42.1 per cent compared with 38.5 per cent in 1981 and a 39.1 average planned for 1981–1985. Again, the plan stresses that new allocations should be used to modernize existing plant rather than for new starts, and calls for a very large fall in the ratio of unfinished construction to capital investment – to 78 per cent in the case of state investments (compared with 85 per cent in 1982). Again in the interest of concentrating investment expenditures in the termination of existing projects, it is intended to cut down the number of new large project starts (those valued at more than 3 million roubles will thus be subjected to closer scrutiny).

3.5 CONSUMER INCOMES AND SUPPLIES

Overall allocation of resources for domestic use (net material product distributed) in eastern Europe and the Soviet Union in 1982 was closely linked with general economic developments analyzed in section 3.1 above and in previous issues of the *Economic Survey of Europe*. In this section, therefore, some particular current aspects of these developments will be examined. In the first sub-section, variations in past relationships between rates of growth of the component demand elements, and also differences in responses to the deceleration in resource availabilities recorded over the last few years, are analyzed. In the second sub-section, nominal wage and income flows are examined in order to illustrate relationships between general economic development and the various income categories (wage and non-wage incomes). The third sub-section aims at illuminating price changes and briefly surveys developments in price levels and price formation policies in the region. In the fourth sub-section, the changing trends of real wages and real incomes which have resulted from changes in resource availabilities and allocation priorities are discussed. The fifth sub-section examines the most recent developments in personal savings. The last two sub-sections investigate various aspects of consumption levels and patterns, and their recent consequences for retail trade.

3.5(i) Changes in the allocation of net material product

Significant year-to-year variations in growth rates of NMP distributed were recorded well before 1979 (especially in eastern Europe between 1960–1978).²⁵² These often took the form of a sharp growth deceleration, were usually investment-induced and rarely lasted for more than two years. They were often caused by previous excessive growth of distributed as compared to produced NMP, originating in a build-up of import surpluses leading to increases in unfinished investment and to the accumulation of inventories. After a relatively short time, the deceleration was usually followed by a new growth phase. The new feature of recent trends in the allocation of resources to domestic end-use categories in eastern Europe and the Soviet Union is that, along with substantial changes in the allocation of NMP, the constraints on the availability of resources for domestic use seem likely to persist for some time to come. This could inhibit possibilities for reversing these trends after a short time in the same way as in the past.

Taking the period 1979–1982 as a whole, the countries of eastern Europe and the Soviet Union may be divided into two subgroups: those with positive growth rates of NMP distributed and those where they have been negative (see table 3.1.9). As a consequence, the setting for changes in national income shares was different in the two groups.

Bulgaria, the German Democratic Republic and the Soviet Union might be classified in the first group. In Bulgaria, there was a deceleration in the growth of distributed national income in 1979 (as also in some

other countries of the region), but there was an upward change in the trend leading to a rather high rate of growth in distributed national income in 1980–1981. Upswings in distributed NMP in the final year of a five-year plan period were far from rare in the region before 1975. The phenomenon was caused partly by plan-fulfilment-conscious investment management, and also by attempts on the part of ministries and enterprises to take pre-emptive action in anticipation of possible restrictive policies in the subsequent period. Bulgaria probably followed this pattern of growth also in 1980 and in 1981. However, from the incomplete information available on 1982, it seems probable that Bulgaria switched to a relatively low rate of growth of NMP distributed in 1982. In contrast with Bulgaria, the German Democratic Republic (except in 1980), together with the Soviet Union, recorded only minor variations in terms of growth rates of distributed NMP up to 1981. In the latter year the German Democratic Republic too increased the share of consumption in NMP distributed. The size of the change was, however, much smaller than for other countries of the region. The falling share of net capital formation as against consumption appears to have continued into 1982. In the case of the Soviet Union, a lower rate of net investment relative to consumption appeared in 1979–1981. But the deceleration of overall growth rates was less significant than in most east European countries.

In the second group of countries (Czechoslovakia, Hungary, Poland and, probably, Romania), efforts to redress the balance of payments within a short period resulted in an absolute decline in NMP distributed. In Czechoslovakia, an important shift in distributed NMP appeared in 1981 with an almost 25 per cent drop in the level of net capital formation. Net investments were also cut further in 1982. In Hungary, net capital formation fell by 8–10 per cent annually after 1979. In Poland, net capital formation fell in relative and absolute terms in every year during 1979–1981. In 1982 the same trends in levels of net investment probably continued, though consumption declined by a roughly similar amount. For Romania, no information on annual changes in the allocation of NMP is available. However, five-year averages of the shares of consumption and net capital formation are regularly reported. Taking into account the high shares of net capital formation in 1976–1980 and stagnating or declining investments in 1980–1982 together, it can be assumed that net capital formation fell during the last two years (table 3.5.1).

Thus in the last two years, and especially in 1982, the share of net capital formation in the NMP distributed dropped in all countries of the region. Consequently the share of consumption increased in every country compared with the average for 1976–1980. Inter-country differences between growth rates of NMP distributed, and in the relative rates of growth of net investment and consumption, became more marked – though the consequent structural changes were similar. In the first group of east European countries (Bulgaria, the German Democratic Republic and the Soviet Union), the share of consumption increased by 1–3 points during 1979–1982. In the second group, structural changes in NMP allocated were more intensive, especially in 1982. Thus in Czechoslovakia and Hungary, net capital formation

²⁵² See editions of the *Economic Survey of Europe* during the period mentioned (table 1 from 1960 to 1971, table 1.2 or text table from 1972 to 1979, table 3.1.2 or 3.1.9 for subsequent years).

TABLE 3.5.1

Allocation of national income
(Percentage share)

Period	Net capital formation			Consumption		
	Total	of which:		Total	of which:	
		Fixed capital	Inventory		Personal	Social
<i>Bulgaria</i>						
1976-1980	25.6	..	..	74.4	..	..
1979	24.2	..	..	75.8	..	..
1980	25.2	..	..	74.8	..	..
1981	26.9	..	..	73.1	..	..
1982	24.5*	..	..	75.5*	..	..
<i>Czechoslovakia</i>						
1976-1980	25.7	21.0	4.7	74.3	54.3	20.0
1979	24.6	19.3	5.3	75.4	55.1	20.3
1980	26.0	18.5	7.5	74.0	53.8	20.2
1981	20.0	17.0	3.0	80.0	57.8	22.2
1982	18.0*	..	..	82.0*	..	..
1983 plan	17.0*	..	..	83.0*	..	..
<i>German Democratic Republic</i>						
1976-1980	23.0	..	..	77.0	64.0	13.0
1979	21.3	..	..	78.7	65.6	13.1
1980	22.7	..	..	77.3	64.9	12.4
1981	21.9	..	..	78.1	65.6	12.5
1982	20.0*	..	..	80.0*	..	..
<i>Hungary</i>						
1976-1980	25.8	19.5	6.3	74.2	63.8	10.4
1979	24.1	20.8	0.8	75.9	64.8	11.1
1980	21.8	19.1	1.8	78.2	66.7	11.5
1981	20.0	14.4	3.0	80.0	68.1	11.9
1982	16.0	..	..	84.0	..	..
1983 plan	15.0*	..	..	85.0*	..	..
<i>Poland</i>						
1976-1980	28.4	24.0	4.4	71.6	60.0	11.6
1979	25.7	22.7	3.0	74.3	61.8	12.5
1980	20.3	17.3	3.0	79.7	66.3	13.4
1981	9.1	10.7	-1.6	90.9	76.0	14.9
1982	10.2	..	..	89.8	73.4	16.4
<i>Romania</i>						
1976-1980	36.3	..	..	63.7	..	..
1980	36.0*	..	..	64.0*	..	..
1981	34.0*	..	..	66.0*	..	..
1982	30.0*	..	..	70.0*	..	..
<i>Soviet Union</i>						
1976-1980	25.9	..	..	74.1	..	..
1979	25.3	..	..	74.7	..	..
1980	23.9	..	..	76.1	..	..
1981	23.4	..	..	76.6	..	..
1982	23.3*	..	..	76.7*	..	..
1983 plan	22.0	..	..	78.0	..	..

Sources: National statistics, plans and plan-fulfilment reports.

dropped from one quarter of NMP distributed in 1979 to one-fifth in 1981 and probably fell to 15-17 per cent in 1982.²⁵³ The east European countries followed for a time a converging pattern of resource allocation, such that by 1980 (with the exception of Romania) a net investment to consumption ratio of 1:3 emerged. But after 1980 this structural uniformity was changed and by 1982 important differences in patterns of allocation had reappeared.

It is also worthwhile noting that these changes in the structure of NMP distribution show some common features at lower levels of aggregation. *Firstly*, it appears that in the first phase of deceleration in some countries the drop in net capital formation reflected changes in inventory levels more than changes in the levels of net

fixed capital formation. This would imply that some degree of inventory accumulation preceded the austerity measures in Czechoslovakia and Hungary. In other words, to bring about redressment of balance of trade difficulties under unusual conditions the authorities followed the conventional course of drawing down stocks. *Secondly*, in the follow-up period, strict inventory control was maintained and even reinforced by accelerated reduction in the level of net fixed capital formation in the above-mentioned countries. *Thirdly*, on the consumption side, the ratio of private to total consumption remained basically the same as during the last few years, although in Czechoslovakia and Hungary the traditional (and slow) increase in the share of social consumption continued in 1981 and probably in 1982. Obviously, in contrast with net investment, the structure of consumption showed a certain stability. In 1979-

²⁵³ Assuming that the decline in gross investments, in relation to net investments, is similar to that which occurred in 1981.

TABLE 3.5.2

Average monthly nominal wages

Country	Average wages in 1981 (in national currency units)	Percentage changes					1983 Plan
		1976- 1980	1979	1980	1981	1982	
Bulgaria	203	4.9	4.9	13.0	4.5	3.2	..
Czechoslovakia	2 685	2.8	2.5	2.4	1.6	2.1	1.0
German Dem. Rep.	1 046	3.0	3.0	1.5	2.4	2.8	..
Hungary	4 244	6.2	7.0	7.4	6.2	7.2	3.6
Poland	7 311	8.0	8.8	13.5	26.3	54.8 ^b	..
Romania	2 340	4.3	4.8	6.2	4.6	7.8 ^a	..
Soviet Union	173 ^c	3.0	2.1	3.4	2.1	2.8	1.9

Sources: As for table 3.5.1.

^a January-June.

^b Including compensation for price changes and pay for work on free Saturdays.

^c Some 238 roubles, including social transfer payments.

1982, the slow increase in consumption in some countries, and the maintenance of its real level in others, remained a top priority target along with the redressment of external debts up to 1981-1982. In some countries, however, according to the 1983 plans, consumption will increase only slightly. In others, consumption is expected to stagnate or drop. In *Czechoslovakia*, consumption growth is planned close to 2 per cent. In *Hungary* there is a planned decline, while some increase is scheduled in the *Soviet Union*. In addition, the consumption plans of some countries seem conditional upon debt servicing performance. In this respect, it would appear that 1982 was already something of a turning point for *Czechoslovakia*, *Hungary* and, according to tentative estimates, for *Romania* too. In *Poland*, a decline in consumption continued until the end of 1982.

3.5(ii) Nominal wages and nominal incomes

In 1982 *nominal wages* in most countries increased more slowly than in 1981. In 1982, as policy makers sought equilibrium through more restrictive allocation policies, a slight drop in the growth of wage flows was to be expected. Part of this deceleration was in all probability automatic, since in the centrally planned economies the upward movement of wages usually closely follows movements in enterprise output. Another element, however, can be considered as the result of attempts by the authorities to stabilize the upper ceiling of wage growth – for instance by reducing wage fund increments in general, and applying greater selectivity with regard to access to different bonus funds during the year. There are indications that such a policy, *inter alia*, was followed in *Czechoslovakia* and *Hungary*.²⁵⁴ In *Bulgaria*, the trend of 5 per cent wage increases (which rose as high as 12.0 per cent in 1980, in line with the upswing in the distributed NMP growth rate) decreased to 4.0 per cent during 1982 (table 3.5.2). In *Czechoslovakia*, no deceleration was recorded in 1982. However, average wage increases in the plan for 1983 indicate that there is recognition of the need to include nominal wages in the redressment process. In *Hungary*, the growth of nominal wages in 1982 was similar to 1981, but is to

decelerate in 1983. In *Romania*, data for January-June 1982 indicate a 7.8 per cent increase over the same period of 1981. In the *Soviet Union*, wages showed a small deceleration in growth rates in 1981, but nonetheless continued to increase at a similar pace to that of the previous four to five years. However the 1983 plan calls for a more moderate increase in nominal wages.

Similarly to nominal wages, the trend of *nominal incomes* changed slightly in 1981 and 1982, although variations in terms of growth rates were smoother than in the case of wages (table 3.5.3). With the exception of *Poland*, growth in nominal incomes as a whole in eastern Europe continued to exceed growth in nominal labour income (wages and bonuses) in 1982, reflecting maintenance of the trend of faster growing non-labour incomes (especially pensions). In *Bulgaria*, where there is no direct record of total nominal income, a rather high rate of nominal payments from social transfer funds is consistent with this assumption. In *Czechoslovakia*, differences between labour and non-labour incomes widened after 1979 and 1980, because of a simultaneous deceleration in wage increases and a sharp upswing in transfer payments – especially pensions. The *German Democratic Republic* and *Hungary* followed largely similar paths, although in the former country the size of the changes in nominal income growth is closer to that in *Czechoslovakia* than in *Hungary*. Nominal incomes in the *Soviet Union* are not yet known. However, available data show a rather high (5.0 per cent) rate of growth in pensions (the most important source of transfer payments), while the already quoted slower rate of growth in nominal wages indicates that the aggregate increase in nominal incomes can be expected to range between 3.0–3.5 per cent in 1982. In *Poland* the 1983 plan gives priority to increasing labour incomes at rates lower than those reached in 1982 (43.8 per cent for wages and 63.0 per cent for total money incomes). The plan objective is to reduce excess purchasing power.²⁵⁵

It seems probable, and it is indeed directly suggested in some of the national plans, that the slowdown in growth rates of nominal incomes in 1983 can be expected to fall mainly on labour incomes throughout the region. In the case of non-labour incomes the increase consists of two elements in most countries (table 3.5.3). First, there is an autonomous increment due to the rise in the number of pensioners, increases in maternity leave and similar

²⁵⁴ See, for example, speeches of Mr. I. Hetenyi, Minister of Finances, and Mr. F. Havasi, Secretary of the Central Committee of the Hungarian Socialist Workers' Party during the winter session of Parliament, *Népszabadság*, 17 December 1982, pp.2-3; and Mr. S. Potáć, Deputy Prime Minister, at the 7th session of the Central Committee of the Communist Party of Czechoslovakia, *Rudé právo*, 26 November 1982.

²⁵⁵ The inflationary overhang, defined by the Polish authorities as the gap between the total wage-fund and the value of retail sales, attained some 500 billion zlotys by the end of 1982; *Zycie Gospodarcze*, 2 February 1983, p.3.

TABLE 3.5.3

Money incomes
(Average annual percentage change)

Country and period	Total money income	Wage and wage-like income	Income from agriculture	Pensions and social benefits	
				Total	Pensions
<i>Bulgaria</i>					
1976-1980	..	7.3	9.0	9.2	10.9
1979	..	6.3	3.6	6.7	7.9
1980	..	12.1	6.3	25.7	21.0
1981	..	5.8	4.2	4.0	7.3
Plan 1982	..	..	..	10.1	11.9
1982	..	4.0*	..	..	..
Plan 1983	..	..	..	..	..
Plan 1981-1985	..	..	..	3.2	..
<i>Czechoslovakia</i>					
1976-1980	4.1	4.0	1.6	5.7	6.2
1979	3.6	3.4	1.8	5.7	5.3
1980	4.0	3.3	5.5	8.1	7.2
1981	2.6	2.5	2.2	1.9	3.3
Plan 1982	2.6	2.0	..	3.0	..
1982	4.0	2.8	..	8.5	7.8
Plan 1983	2.0	1.3	..	3.7	..
<i>German Democratic Republic</i>					
1976-1980	3.6	2.8	..	..	4.9
1979	3.0	3.0	..	..	0.4
1980	2.5	1.5	..	..	10.5
1981	3.3	2.4	..	..	..
Plan 1982	4.0	..	..	..	..
1982	3.0	2.2*	..	..	..
Plan 1983	3.0	..	..	..	..
Plan 1981-1985	3.7	..	..	..	..
<i>Hungary</i>					
1976-1980	8.2	7.0	10.9	12.1	13.0
1979	8.7	6.3	6.7	18.6	21.8
1980	8.4	6.5	7.9	14.0	15.8
1981	8.1	6.2	8.0	8.1	9.0
Plan 1982	6.0	..	..	..	..
1982	6.0*	5.6	6.2	9.0	12.0
Plan 1983	5.0*	3.5-3.8	..	..	..
<i>Poland</i>					
			^a		
1976-1980	11.2	9.7	10.8	16.5	19.7
1979	9.9	9.1	6.4	17.3	20.8
1980	12.1	13.0	8.8	15.6	17.4
1981	31.1	27.0	61.9	37.0	28.7
1982	63.0	43.8	66.0	138.0	..
Plan 1983	12.5	16.0	..	..	..
<i>Romania</i>					
1976-1980	..	5.4	6.1	..	3.5
1979	5.7	5.0*	5.8	..	2.5
1980	..	6.5*	..	..	1.5
1981	6.3	5.0*	2.5	..	3.4
Plan 1982	..	..	3.2	..	1.9
1982	..	7.8 ^c	..	..	..
Plan 1983	..	..	..	..	..
Plan 1981-1985	..	..	3.4	..	2.0
<i>Soviet Union</i>					
			^b		
1976-1980	4.9	5.0	3.2	5.5	6.6
1979	4.0	4.0	1.6	2.7	5.9
1980	5.2	5.2	1.1	7.3	7.8
1981	3.7	3.5	1.1	5.4	6.3
Plan 1982	..	3.2	..	..	..
1982	..	3.0*	..	5.0	..
Plan 1983	..	2.4	2.1	4.7	..
Plan 1981-1985	..	..	..	3.7	..

Sources: As for table 3.5.1.

Note: Money incomes shown in this table differ in coverage from nominal incomes in that they exclude a number of (non-monetary) items which are included in the latter (payment in kind of collective farmers, consumption of self-produced food, non-monetary benefits of the population such as consumption in hospitals, etc.).

^a Non-socialized sector only, 1976-1979.^b Collective farmers only.^c January-June 1982 compared with the same period of 1981.

reasons. Second, successive adjustments in every second or third year have tended to increase the share of non-labour incomes in the total. Such adjustments took place in Bulgaria, Czechoslovakia and the German Democratic Republic, for example, between 1980 and 1982. In the case of wage incomes, development will reflect the growth of output expected in most countries. In addition there is a need in most countries for a short-term redressment of the balance of payments. Thus even nominal incomes have less room to grow without, *ceteris paribus*, endangering market balances or export capacities. Downward movements in wages would however be a sensitive issue. But upward movement is largely restricted both by output and financial ceilings. However, some branches or enterprises will benefit more than the average from incentive systems tied to plan fulfilment, export supplies, import substitution or energy economies. Hence, the expected slowdown in labour income growth will not uniformly affect the entire labour force.

With regard to the *sectoral and branch differentials in nominal wages*, available data show clearly that, despite minor variations, no real change has occurred since 1970 (table 3.5.4). There was a slightly more marked change in terms of employment. From these figures two conclusions can be drawn. *First*, the data suggest that despite the important changes in the external environment of the centrally planned economies described elsewhere (including changes in the relative export capacity of branches, in their relative import intensity and in their external price relatives) wage differentials remained stable. Employment structures in those countries do not seem to be associated with changes in wage relatives.²⁵⁶ *Second*, and consequently, the rather moderate plan targets for wages in 1983 is likely to affect all branches more or less equally. If so, the incentive power of wage increases may not work in the direction required. Recognition of this problem is implicit in most countries' plans, which emphasize that wage increases should be closely connected with priority objectives – particularly in the field of export stimulation, import substitution and the attainment of economies in the consumption of energy.

TABLE 3.5.4

Standard deviation of average monthly wages across sectors of employment^a
(Percentages)

	1970	1975	1980	1981
Bulgaria	12.2	11.2	12.2	13.2
Czechoslovakia	13.6	12.6	12.6	13.6
Hungary ^b	6.0	6.9	6.9	6.9
Poland	15.0	11.4	10.7	10.7
Romania	7.3	7.7	6.9	6.9
Soviet Union	17.8	19.3	17.2	17.6

Sources: Computed from the *CMEA Yearbook* 1982, pp.391–394.

^a Nine branches of the national economy according to the CMEA classification. The mean used here is the weighted monthly average of wages per head in the whole economy.

^b Because of important changes in classification the figures given for 1970 and 1975 are not strictly comparable with the rest.

3.5(iii) Consumer prices and price policies

Little information about consumer price changes in eastern Europe and the Soviet Union in 1982 has been

published so far. However, it seems probable that individual countries maintained past price policies, within which three main orientations can be distinguished. First, in the German Democratic Republic and the Soviet Union, aggregate price levels have changed only a little during the last few years. Second, in Bulgaria, Czechoslovakia and Romania, prices have moved more strongly during the last four to five years, but they have tended to provide a retrospective adjustment to the build-up of supply and demand imbalances after they have become apparent. Third, in Bulgaria, a large scale price adjustment took place in consumer markets in 1980 which resulted in an overall consumer price rise of 14.0 per cent increase (table 3.5.5).

In Czechoslovakia, price changes of a magnitude similar to those of 1979 were repeated in 1982.²⁵⁷ The case of Hungary is different again, following a relatively active consumer price policy which has resulted in consumer price increases of almost 8 per cent annually during the last four years. Poland presents a further unique case. Price changes were instituted some time after changes in the balance between supplies and nominal incomes had begun to be apparent in 1980 and 1981. There was a 21.2 per cent rise in 1981 but there was a much more substantial rise in 1982 – a doubling of the current price level.

Even if 1982 brought no comprehensive follow-up to the piecemeal price adjustments which had taken place under customary price management policies, certain modifications began to appear in terms of past price relationships on consumer markets on the one hand and in producers' markets on the other. It seems likely, that in 1982 the most important characteristic of price policies in eastern Europe and the Soviet Union is not reflected so much in changes in the overall index itself, but in changes in price relatives.

It is important to note three characteristics of price policy between 1979 and 1982. *First*, as already noted, price changes were virtually always followed by a largely offsetting increase in nominal incomes. *Second*, the most important price increases were those affecting foodstuffs. There are two reasons why the price increases fell mainly upon food (except in the Soviet Union). In the first place, until 1975–1979, the price relatives which had prevailed in the industrialization period still persisted in most countries. In broad terms, this meant a relatively higher price level for industrial consumer goods and a relatively low price level for foodstuffs – the latter having been considered (as it generally still is) as a basic social necessity. At the same time, the relative cost position of foodstuffs changed substantially in the region. Maintenance of existing price levels absorbed an increasing amount of resources via state subsidies which channelled revenues from the budget to consumption in a non-performance dependent way. Even the most recent price increases on foodstuffs (a 25.0 per cent rise in Bulgaria in 1980, an almost 9 per cent annual rise between 1979 and 1981 in Hungary, and a rise of more than 12 per cent annually in Poland between 1979–1981) did not markedly decrease state subsidies. Third, along with increasing food consumption in eastern Europe and the Soviet Union, foreign trade in foodstuffs increased sharply to become an important fraction in centrally planned economies' imports from the developed market economies. Moreover, the significantly increasing energy and chemical industry input of food production, partly due to imports, contributed heavily to the rise in food subsidies.

In 1982 efforts to link consumer prices more closely with

²⁵⁶ This conclusion echoes the general lack of correspondance between the price changes for investment work and the branch allocation of investment discussed in section 3.4 above.

²⁵⁷ In 1982 there was an estimated 4 per cent overall increase in consumer prices including a 7 per cent increase in food prices.

TABLE 3.5.5
Consumer price index
(Average annual percentage change)

Country and year	Total	Food	Non-food	Services
<i>Bulgaria</i>				
1976-1980	4.0	6.2	2.4	..
1979	4.6	6.2	3.3	..
1980	14.0	24.7	6.6	..
1981	0.5	0.3	0.7	..
<i>Czechoslovakia</i>				
1976-1980	2.1	1.2	2.8	2.6
1979	3.9	1.4	5.3	5.3
1980	2.9	0.2	4.4	6.5
1981	0.8	0.0	1.5	0.7
1982	4.0*	7.0*	..	..
<i>German Democratic Republic</i>				
1976-1980	0.1	—	0.3	—
1979	0.2	—	0.5	—
1980	0.5	—	1.3	—
1981	0.2	—	0.5	—
<i>Hungary</i>				
1976-1980	6.3	8.5	5.4	4.0
1979	8.9	11.6	2.2	3.4
1980	9.1	13.4	8.5	7.0
1981	4.6	3.4	6.1	6.5
1982	6.9	..	..	..
1983 plan	7.5	..	..	..
<i>Poland</i>		<i>a</i>		
1976-1980	6.8	7.9	6.5	7.9
1979	7.0	7.4	5.9	8.0
1980	9.4	12.8	8.5	8.4
1981	21.2	22.5	13.1	27.1
1982 ^b	100.2	137.8	85.2	64.7
1983 plan	15.0	..	..	..
<i>Romania</i>				
1976-1980	1.4	1.0	..	1.6
1979	2.0	0.8	..	1.5
1980	2.2	1.8	..	1.4
1981	1.8	1.8	1.9	3.1
1982	3.0*	..	..	..
<i>Soviet Union</i>		<i>a</i>		
1976-1980	0.7	0.4	1.0	..
1979	1.3	1.8	..	..
1980	1.0	1.0	2.0	..
1981	0.9	—	1.7	..

Sources: As for table 3.5.1.

^a Excluding alcoholic beverages.

^b Cost of living index of employees in the socialized economy.

production costs have continued in eastern Europe.²⁵⁸ In the Soviet Union, the issue of price formation has also been raised recently.²⁵⁹ In fact, in most countries of the region, there already exists a largely independent marketplace outside the state retail trade network, in which prices are determined according to the supply/demand situation – either freely or within rather wide limits. In the Soviet Union, a small but not unimportant role in supplying foodstuffs is played by the *kolkhoz* markets, and similar institutions exist in other countries too. In Hungary, new small-scale private or co-operative enterprises appeared at the beginning of 1982, with freedom to operate in practically every field of production and services. The class of goods where prices are allowed to move independently from the State regulating

system was also substantially widened. In Poland, new consumer price lists were introduced in order to balance the market, and also to introduce new price relatives and thus regulate the structure of consumption. The resulting price rises only partially achieved their purpose of removing market imbalances.²⁶⁰

In general, consumer prices since 1979 have been an important feature of the macroeconomic policies in many countries (in Bulgaria, Czechoslovakia, and Poland, for example). One of the main consequences of the new price regulations has been, as anticipated, a decrease in subsidies on many items and some closing of the gaps between consumer prices and production costs. This has constituted an important measure of adjustment. Since imports are no longer able to play the role they had before 1980-1981, an unchanged consumer price system would have increased demand for goods in

²⁵⁸ Since low and stable consumer prices are, of course, reflected in wage levels, it would on occasions be more accurate to relate this discussion to the question of increasing the cost sensitivity of consumer demand.

²⁵⁹ Speech by Mr. Andropov in Moscow on 31 January 1983, reported in *Pravda*, 1 February 1983, p.1.

²⁶⁰ "Supplies of non-rationed goods – mainly consumer ones – did not meet the demand ..." Report of the Polish statistical office for 1982, published in *Rzeczpospolita*, 12-13 February 1983, p.4.

limited supply, particularly where their prices do not reflect their real costs.

There is relatively little information on the effects of price changes on the pattern of expenditure by social strata. In Hungary and Poland, where such statistics are available, it appears that consumption across social strata showed a rather similar structure except in the few cases where price rises were very large. In Hungary, for example, a 7 per cent price increase in 1982 caused almost negligible differences in the cost of living among social groups (the maximum size of the differences was less than 1 percentage point).

3.5(iv) Real wages and real incomes

Real wages and incomes of eastern Europe and the Soviet Union in 1982 witnessed some change in comparison with previous years, though to varying degrees in different countries (table 3.5.6). In *Czechoslovakia* and *Hungary*, real wages and real incomes in 1982 virtually stagnated. In *Bulgaria* and the *German Democratic Republic*, estimates for 1982 suggest some deceleration of the still high (3-4 growth rates) in both indicators. For *Romania*, estimates also suggest some further deceleration in growth rates in real wages and real incomes. In the *Soviet Union*, no real wage series is available. The real income growth in 1982 was lower than planned, and real incomes remained at the previous year's level. In *Poland*, real income figures for 1982 are somewhat uncertain, but show diverging trends in income flows and sales. The Polish authorities plan to halt growing disparities between aggregate nominal income and real purchasing power in 1983, as the plan targets already show. It seems probable that the first priority task for Poland in 1983 will be to end the wage inflation.

In the region as a whole, plans for 1983 envisage lower real wages and real income growth rates than a year before. This could affect productivity performance, since a good part of the incentive system in most east European countries and the Soviet Union is based on differentiated wage rises. Deceleration in the growth of real wages and real incomes represents only one side of the problem. Equally important is consumer supply, and the degree to which demand as a whole can be satisfied and cash surpluses diminished by the wider availability of goods.

3.5(v) Personal savings

Personal savings are influenced by three different groups of factors in eastern Europe and the Soviet Union. *Firstly*, there are obvious differences between savings habits and traditions which are affected by differences in the standard of living, and savings possibilities between countries. Social habits may affect, in particular, the share of savings which are not held in banks. *Secondly*, the availability of goods seems to be of decisive importance in determining the relationship between voluntary and involuntary savings. *Thirdly*, family debt commitments for house purchase, consumer credit, etc., will also affect savings patterns. These factors are, of course, very difficult to detach from each other and a fully comparable picture for the region as a whole is not possible.

Since no national accounts data on savings are published, the following discussion relates to bank deposits only. Complete data on such deposits are not available later than 1981. Recalling the previous sections on nominal incomes and prices, personal

TABLE 3.5.6

Real wages and real incomes (Average annual percentage change)

Period	Real wages per wage- or salary-earner	Real income per head of population	Real wages per wage- or salary-earner	Real income per head of population
<i>Bulgaria</i>				
1976-1980 . . .	0.5	2.6	6.1	5.1
1979	1.5	2.9	3.9	3.3
1980	-0.3	3.4	3.0	2.4
1981	4.3	4.8	1.1	2.2
Plan 1982 . . .	..	3.0	1.5	2.7
1982	2.0*	2.7*	1.0*	1.5*
Plan 1983 . . .	..	2.8	..	3.4
Plan 1981-1985	..	2.8	2.9	3.6
<i>Czechoslovakia</i>				
1976-1980 . . .	0.7	1.3	3.0	3.4
1979	-0.6	-0.1	2.1	3.0
1980	-1.0	0.1	3.4	3.7
1981	0.8	1.6	2.1	3.3
Plan 1982 . . .	..	..	2.6	2.1
1982	-0.5*	-*	2.8	0.1
Plan 1983 . . .	..	..	1.9	3.0
Plan 1981-1985	..	..	2.8	3.1
<i>German Democratic Republic</i>				
1976-1980 . . .	4.5	4.3	3.7	3.6
1979	4.8	3.4	2.1	4.0
1980	4.3	3.1	3.8	2.8
1981	4.6	4.0	2.0	3.2
1982	3.0*	3.3	2.9	..
Plan 1983 . . .	..	..	2.1	3.1
Plan 1981-1985	..	3.9-4.2	2.6	3.1
<i>Hungary</i>				
1976-1980 . . .	0.7	1.6	3.0	3.2
1979	-1.7	0.1	1.7	2.1
1980	-1.8	0.4	4.3	2.4
1981	1.5	2.2	2.0	3.4
Plan 1982 . . .	..	0.0-0.5	..	3.0
1982	-0.5	..	2.8	..
Plan 1983 . . .	..	-1.5-2.0	..	3.0
Plan 1981-1985	..	1.1-1.4	2.3	3.2
<i>Poland</i>				
1976-1980 . . .	2.0	2.9	..	..
1979	2.1	2.4	..	..
1980	3.4	1.0	..	..
1981	1.5*	3.0*	..	..
Plan 1982 . . .	..	..	..	..
1982	-25.7	-20.0*	..	..
Plan 1983 . . .	0.9	-3.0 ^b	..	..

Sources: As for table 3.5.1.

Note: The estimate for Bulgaria's 1982 real income is based on the reported total real income increase of 3 per cent deflated by the population growth rate. The Czechoslovak estimates are based on an extrapolation of the relationship between changes in real output and real wages in 1981. The German Democratic Republic and Romanian estimates were prepared in a similar way. The real income estimate for Poland is based on total income deflated by the cost of living index in 1981 and also in 1982.

^a Average nominal wages.

^b Increase in money incomes deflated by expected price rise.

savings in the countries under review may have been affected to some degree by changes in monetary flows and price relatives. However, no stable relationship seems to emerge from the data on the movement of bank deposits in relation to the income and price changes already noted above (table 3.5.7).

Apart from data already presented, there is little detailed information about how personal savings react to changes in commodity availabilities via a fast nominal growth in incomes – or, in the converse case, by rises in prices. In Poland, where income and price changes were

TABLE 3.5.7

Increase in bank deposits
(1970 = 100)

	1978	1979	1980	1981	1982
Bulgaria	229	247	264	280	..
Czechoslovakia	224	231	244	258	279
German Democratic Republic	177	186	191	197	..
Hungary	297	323	345	380	415
Poland	356	398	429	579	747
Soviet Union	281	314	335	355	373

Sources: As for table 3.5.1.

particularly marked in recent years, experience suggests that the stock of savings held outside banks increases when the population is confronted by growing shortages of consumer supplies.²⁶¹

3.5(vi) Consumption

In this section some aspects of social consumption²⁶² and patterns of personal consumption will be examined, including developments in dwelling construction.

Social consumption in the centrally planned economies over the past decade represents a high (20 to 40 per cent) share of total consumption (table 3.5.8). Recent developments do not show any marked departure from past consumption growth patterns. There has also been an increasing degree of similarity between countries with regard to the share of social funds in total consumption. By 1980, the inter-country spread had considerably narrowed. The largest share in social consumption is represented by pensions and social benefits in all countries (35–58 per cent of the total). The second place is occupied by educational and cultural expenditures including student grants, (20–27 per cent of the total), while maintenance of health care is the third largest item (roughly one-sixth of the total).

The social consumption fund is expected to play an increasing role in circumstances of decelerating growth of real incomes, notably through the maintenance of transfer payments and especially pensions. On the other hand, the high share of social consumption in total consumption may, as noted earlier, widen the gap between rates of growth of labour and non-labour incomes. This could weaken the effects of recent changes in economic management systems designed to bring about a closer relationship between work performance and wages and wage-like earnings.

From 1979 until 1981, different issues of the *Economic Survey of Europe* analyzed the basic features of the family budget expenditures in eastern Europe and the Soviet Union.²⁶³ Table 3.5.9 illustrates these expenditure patterns for three socio-economic groups (workers, peasants and in some cases non-active earners too). The following paragraphs mostly confine discussion to the most recent developments.

In fact, no important basic change in *family consumption patterns* took place until 1979 in comparison with

previous years (table 3.5.9). However, changes in price relatives have affected relationships between different consumption items. For instance, before 1979 the decreasing share of food consumption in family budgets was usually accompanied by a falling share in the contribution of food produced by peasants and peasant-worker families for their own needs. In some countries (as mentioned in section (iii)) there were big increases in food prices relative to the price of other goods. Since food consumption as such has a low price elasticity, the shares of expenditure on foodstuffs increased in some countries and stopped decreasing in others. In addition taxes on alcoholic beverages and tobacco (the price elasticity of which is typically low) increased the share of these items in the total.²⁶⁴ For *Bulgaria*, information about the structure of family spending in 1979–1981 shows that no basic changes took place. An important increase in food prices occurred in the second half of 1979 which resulted in a rise in the share of such expenditure in the 1980 total. In *Czechoslovakia* and the *German Democratic Republic*, where the share of food expenditures in total consumption is the lowest in the region, such price changes which took place have not reversed the steady fall in the share of food in total family spending. In *Hungary*, where prices – especially food – increased at a relatively significant rate after 1978/1979, spending on foodstuffs remained roughly constant. In *Poland*, spending on food kept decreasing in 1981 in all three different social groups tabulated. The fall of some 3 per cent in food consumption in terms of current spending from 1980 to 1981 in the case of peasant families seems to result from the influence of strong non-market effects – namely, a possible reinforcement of consumption from peasants' own production, and generally, an increase of the non-marketed share in consumption which, in fact, may not appear in family budget statistics. *Romania* publishes data showing the widest difference between workers and peasants expenditures on food (46.8 per cent for workers and 62.9 per cent for peasants).

The picture is more varied in the case of *non-food spending*. Partly, it is due to the fact that the coverage and classification of the data in table 3.5.9 are not uniform in terms either of national statistical concepts and usage or – especially – in terms of price relatives. Nevertheless, it is significant that in no country does the maintenance of dwellings represent more than 8–18 per cent of total family spending. (However, the item "other" in the family budgets may also contain certain items relating to current household costs and the purchase of dwellings.)

²⁶¹ According to some estimates, by the end of 1982 the level of savings in banks was 879 billion zlotys as against 562 billion in cash. See interview with the President of the Polish National Bank, Mr. C. Majewski, *Trybuna Ludu*, 27 January 1983.

²⁶² Throughout this section social consumption is understood as consumption which originated from state social welfare funds at all levels, i.e. it is defined in terms of the origin of resources.

²⁶³ *Op.cit.*, 1979, pp.211–215; 1980, pp.167–169; 1981, pp.275–280.

²⁶⁴ In most countries beverages and tobacco (but most of all, alcoholic beverages) are not basic foodstuffs from the point of view of price "classification" and are subject to heavy taxation.

TABLE 3.5.8

Social consumption fund
(Share in total incomes of population and percentage structure)

Country and period	Social consumption funds to total incomes of population (%)	Structure of social consumption fund			
		Pensions and social benefits	Education and culture ^a	Health	Other ^b
<i>Bulgaria</i>					
1970	32.6	46.1	22.0	13.4	18.5
1975	34.3	44.1	21.8	14.4	19.7
1979	33.5	44.2	21.5	15.3	19.0
1980	35.8	45.8	21.8	15.1	17.4
1981	36.6	44.5	23.6	16.2	15.7
<i>Czechoslovakia</i>					
1970	34.2	51.9	20.1	15.0	13.0
1975	36.6	48.3	20.9	15.2	15.6
1979	37.8	48.6	20.9	15.6	14.9
1980	38.4	49.8	20.8	15.6	13.8
1981	38.9	50.8	20.2	15.8	13.2
<i>German Democratic Republic</i>					
1970	29.3	41.5	24.3	15.3	18.9
1975	32.9	38.7	24.7	15.8	20.8
1979	33.5	36.1	22.5	17.8	23.6
1980	33.4	37.1	21.7	17.9	23.3
1981	34.1	35.4	22.2	18.0	24.4
<i>Hungary</i>					
1970	22.6	48.9	23.9	16.7	10.5
1975	27.2	56.0	21.3	14.6	8.1
1979	30.8	57.7	20.7	13.9	7.7
1980	31.9	58.2	20.7	13.8	7.3
1981	32.0	58.0	21.0	14.0	7.0
<i>Poland</i>					
1970	19.0	40.8	28.0	23.8	7.4
1975	18.9	39.8	27.0	23.4	9.8
1979	21.3	43.8	22.9	20.6	12.7
1980	21.6	44.0	21.5	21.5	13.0
1981	21.3	44.5	20.8	20.4	14.3
<i>Soviet Union</i>					
1970	37.2	34.9	27.3	15.6	20.2
1975	38.7	37.3	27.9	14.3	20.5
1979	39.2	37.3	27.4	14.7	20.6
1980	39.6	37.9	27.0	14.7	20.4
1981	39.8	38.3	26.7	14.7	20.3

Sources: As for table 3.5.1. Figures on the left side of this table are not fully comparable: in some cases they include the cost of annual leave, while there are some inter-country differences in the method of computation of certain other items.

^a Including student grants.

^b Including housing subsidies.

^c Including allowances for annual leave.

The shares of spending on foodstuffs, textiles, footwear and consumer durables (which are clearly variable, price-dependent items of family budgets) have changed somewhat during the last few years. In *Bulgaria*, in 1980 these items represented in aggregate half of the total family budget, but the share of these items excluding food was relatively low in comparison with other east European countries. In *Czechoslovakia*, the *German Democratic Republic* and *Hungary*, the share of these components in the family budget reached 53 to 55 per cent, while differences in their level between social groups were minimal. In these three countries, however, non-food personal consumption in 1981 was somewhat bigger relative to food expenditures than in *Bulgaria*. In *Poland*, the share of personal consumption (food and personal non-food expenditures) was the highest in the region, except for peasant families in *Romania* during 1979–1981. In the *Soviet Union*, the share of food expenditure in 1981 fell by some 4 per cent since 1970 in the case of workers in co-operative peasant families. Textiles and footwear represented a slightly increasing

percentage of the total – rising to some 16 per cent of total family expenditures in 1981.

Consumption of food in physical terms again increased in 1981 especially in the case of non-meat products (table 3.5.10). In 1982 consumption of meat may have increased in some countries while the increase in other commodities was slowed down as prices went up and a certain deceleration in nominal income growth took place. The increase in meat consumption in most countries slowed in recent years and its level fell in *Poland* and the *Soviet Union* in 1981. Common problems affecting supplies of certain meat and dairy products appeared in some countries in 1982. As already mentioned in section 3.2 above, in most countries of the region fodder imports declined. Most countries had previously built up large-scale animal production on the basis of abundant fodder imports. Although serious efforts have been made to replace such imports by domestic production (at least to a certain degree) these efforts had not been successful up to the end of 1982.

These developments led to uneven supplies of meat,

TABLE 3.5.9

Structure of family expenditure
(Percentage distribution, total expenditure = 100)

A: Workers' families.

B: Peasant families.

C: Non-manual workers' families.

	Food			Textiles, clothes footwear			Consumer durables			Maintenance of dwellings			Savings			Other		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
<i>Bulgaria</i>	<i>a</i>																	
1970	33.9	34.8	29.1	9.6	9.0	9.6	4.7	4.5	4.3	8.1	7.2	6.1	11.2	12.2	12.9	32.5	32.3	38.0
1975	32.0	33.6	28.8	9.2	7.4	9.6	4.2	4.2	4.3	6.2	6.6	5.5	13.4	14.3	12.5	35.0	33.9	39.3
1979	32.2	38.4	29.8	9.5	7.8	10.4	4.3	3.5	4.2	5.8	7.4	5.6	9.6	6.9	10.1	38.6	36.0	39.9
1980	36.8	41.4	34.9	8.9	6.9	9.1	3.8	3.4	3.9	6.1	6.0	6.2	9.0	15.8	8.9	35.4	26.5	37.0
1981	36.7	..	34.4	9.0	..	9.1	3.9	..	4.0	6.7	..	6.2	9.3	..	9.2	34.4	..	37.1
<i>Czechoslovakia</i>																		
1970	33.3	26.4	29.5	9.7	11.4	9.2	17.2	23.9	18.2	11.5	10.2	13.8	9.2	17.2	9.9	19.1	10.9	19.4
1975	29.8	27.1	26.7	9.1	10.3	9.1	19.5	25.6	19.9	11.3	9.9	13.3	10.2	15.2	10.7	20.1	11.9	20.3
1979	27.3	26.0	24.5	9.7	11.1	10.0	18.8	24.7	19.6	12.0	10.9	13.6	10.4	13.6	10.6	21.8	13.7	21.7
1980	27.0	26.0	24.4	9.6	11.1	9.9	17.7	23.7	18.4	12.9	11.9	14.8	10.5	13.4	10.4	22.3	13.9	22.1
1981	26.3	25.1	24.4	9.3	10.8	10.0	18.1	24.2	17.5	13.0	11.8	15.1	11.0	13.7	10.9	22.3	14.4	22.1
<i>German Democratic Republic</i>	<i>c</i>																	
1970	27.1 ^b	28.2	..	12.3	12.7	..	16.5	16.5	..	4.5	3.0	..	22.6	18.3	..	17.0	21.3	..
1975	28.6	26.9	..	12.6	12.6	..	20.2	20.5	..	4.3	2.7	..	15.5	17.6	..	18.8	19.7	..
1979	27.1	26.2	..	12.8	12.3	..	22.1	21.2	..	4.0	2.3	..	16.0	21.4	..	18.0	16.3	..
1980	27.1	26.5	..	12.6	12.6	..	22.3	23.9	..	4.2	2.4	..	15.5	17.3	..	18.3	17.3	..
1981	27.4	26.9	..	13.1	12.8	..	22.7	24.8	..	4.3	2.4	..	15.0	15.7	..	17.5	17.4	..
<i>Hungary</i>																		
1970	37.6	41.3	30.3	15.4	13.8	15.6	8.6	8.4	9.8	15.4	14.7	22.9	..	5.6	..	17.4	16.2	15.8
1975	32.6	34.8	26.7	14.5	13.5	13.8	9.5	9.8	11.1	17.0	15.1	21.8	..	6.0	..	20.4	20.8	20.6
1979	33.1	34.5	27.5	11.6	11.3	11.4	9.2	9.0	10.0	16.9	14.2	19.1	..	4.7	..	25.5	26.3	27.3
1980	33.8	35.9	28.0	11.0	10.8	10.5	9.1	8.5	11.5	16.4	14.7	19.0	..	6.9	..	22.8	23.2	24.1
1981	33.3	34.4	27.1	10.6	10.7	10.5	8.3	7.8	10.8	16.9	15.4	18.8	..	10.8	..	20.1	20.9	22.0
<i>Poland</i>																		
1970	46.7	53.9	..	15.7	16.0	..	14.8	..	..	14.8	..	..	..	..	..	..	..	..
1975	41.1	49.6	..	15.4	12.5	..	10.4	15.8	..	15.5	12.4	..	..	..	..	..	..	..
1979	40.9	42.7	..	14.4	12.3	..	15.9	25.1	..	15.3	13.9	..	..	..	..	..	..	..
1980	42.9	44.6	37.3	15.0	12.7	14.8	15.5	23.8	17.2	14.9	12.6	14.9	..	..	..	..	..	..
1981	41.9	41.8	36.3	16.2	12.3	15.4	16.6	29.2	18.8	14.3	11.2	14.0	..	..	..	..	..	..
<i>Romania</i>																		
1979	45.7	63.1	..	17.6	14.1	..	11.4	6.4	..	14.7	11.2	..	..	..	..	10.6	5.2	..
1980	45.6	62.7	..	17.5	13.8	..	11.2	6.1	..	15.2	12.5	..	..	..	..	10.5	4.9	..
1981	46.8	62.9	..	17.6	14.2	..	11.2	6.0	..	15.7	13.0	..	..	..	..	8.7	3.9	..
<i>Soviet Union</i>																		
1970	35.7	40.4	..	15.5	15.7	..	5.8	4.9	..	2.8	1.8	..	4.1	6.4	..	36.1	30.8	..
1975	32.9	37.1	..	15.4	15.7	..	6.5	5.9	..	2.7	1.6	..	6.3	6.0	..	36.2	33.7	..
1979	31.8	35.7	..	15.6	15.6	..	6.6	6.2	..	2.7	1.6	..	6.6	8.9	..	36.7	32.0	..
1980	31.7	35.9	..	16.1	16.5	..	7.2	6.7	..	2.7	1.5	..	5.9	7.3	..	36.4	32.1	..
1981	31.4	35.0	..	16.1	16.3	..	7.4	6.6	..	2.7	1.3	..	6.0	9.1	..	36.4	31.8	..

Sources: As for table 3.5.1.

^a Including alcoholic beverages and tobacco products. Up to 1980 workers' families include manual and non-manual workers.^b Employees' and workers' families together.^c Rent, fuel and electricity only.^d Savings, taxes, etc.^e Per capita savings of the total population.^f Fuel and electricity only.

milk and milk products in Czechoslovakia, the German Democratic Republic, Poland, Romania and the Soviet Union in 1982.²⁶⁵ In general terms, however, supplies of basic foodstuffs in 1981 and 1982 were sufficient and at approximately the same levels achieved in previous years. In the case of *supplies of consumer durables* the situation in the markets did not change substantially in 1981 and 1982 (table 3.5.11). In some cases there were reports of minor shortages, mostly due to the effects of falling imports and other austerity measures, which affected the supply of inputs to industrial branches

producing consumer goods and, also, the availability of some imported industrial consumer goods. In terms of market balance, however, the situation improved as price changes influenced demand.

The rate of *dwelling construction* has fallen during the last few years. Absolute levels of dwelling construction stagnated or fell in 1981–1982 in comparison with later years of the 1970s. In Bulgaria, after a drop in the number of new dwelling completions in 1980–1981, performance improved in 1982. In Czechoslovakia, a similar tendency can be observed between 1980 and 1982; despite some fluctuations, there was a drop of some 35 per cent in the number of completions in 1982 in comparison with the peak year of 1980. There was some downward movement in Hungary. The rather ambitious

²⁶⁵ *Neues Deutschland*, plan fulfilment report for 1982, on 15–16 January 1983; *Rudé právo*, plan fulfilment report for 1982, 29 January 1983.

TABLE 3.5.10

Per capita consumption of selected goods
(In kilogrammes, except for eggs, in units)

	1970	1975	1979	1980	1981	1970	1975	1979	1980	1981	1970	1975	1979	1980	1981
	<i>Bulgaria</i>					<i>Czechoslovakia</i>					<i>German Democratic Republic</i>				
Meat and meat products	41.4	58.0	62.1	61.2	63.0	71.9	81.1	84.3	85.0	86.6	66.1	77.8	87.8	89.4	90.5
Fish and fish products	5.5	6.2	7.0	6.9	6.8	5.2	5.8	5.4	5.4	5.0	7.9	8.5	7.0	7.5	7.4
Milk and milk products	116.6	142.8	166.9	169.4	171.4	203.6	218.0	228.0	230.0 ^a	236.0	..	..	..	..	..
of which:															
Butter	..	..	..	..	..	7.4	7.6	7.3	7.2	7.3	11.2	10.3	10.8	10.9	11.1
Cereal products	238.8	217.8	214.3	216.0	215.6	113.0	108.0	107.0	107.0	110.0	97.3	94.8	94.8	94.2	95.0
Potatoes	..	..	..	..	..	103.4	95.8	83.0	76.1	79.5	153.5	142.1	143.0	143.0	141.0
Vegetables	88.9	90.1	100.3	93.8	98.0	76.3	73.7	71.1	65.6	67.1	84.8	90.0	97.7	93.8	95.1
Sugar and sugar products	32.9	32.5	34.2	34.7	35.5	37.7	38.0	38.6	38.0	36.9	34.4	36.8	40.8	40.7	40.8
Vegetable fats and oils ^b	16.2	18.7	20.3	20.8	21.1	5.8	6.7	7.3	7.3	7.3	2.2	2.0	1.7	1.7	1.6
Eggs	122.0	146.0	187.0	204.0	209.0	277.0	297.0	311.0	316.0	321.0	239.0	269.0	284.0	289.0	290.0
	<i>Hungary</i>					<i>Poland</i>					<i>Romania</i>				
Meat and meat products	58.1	68.5	70.4	70.5	74.0	61.2	78.4	81.3	82.1	72.3	31.2	45.7	..	62.0	..
Fish and fish products	2.3	2.7	2.5	2.8	2.6	6.3	7.2	7.6	8.1	7.3	4.7	4.7	..	5.9	..
Milk and milk products	109.6	126.6	160.0	162.0	172.0	413.0	432.0	457.0	451.0	444.0	110.7	132.6	..	180.0	..
of which:															
Butter	2.1	1.7	2.0	2.0	6.0	7.4	8.1	8.9	8.9	..	..	..	..	..	..
Cereal products	128.2	122.2	117.0	115.0	114.0	131.0	120.0	120.0	127.0	128.0	..	..	..	..	..
Potatoes	75.1	66.8	61.3	61.2	62.0	190.0	173.0	163.0	158.0	155.0	..	..	..	..	..
Vegetables	155.7	159.2	164.6	146.0	159.0	111.0	109.0	116.0	101.0	118.0	86.7	112.6	..	140.0	..
Sugar and sugar products ^c	33.5	39.4	34.1	35.0	36.0	39.2	43.2	43.9	41.4	33.4	19.3	20.3	..	28.2	..
Vegetables fats and oils	2.8	4.6	4.1	4.2	4.3	1.5	2.1	2.9	2.6	2.8	14.1	17.0	..	17.8	..
Eggs	247.0	274.0	328.0	317.0	315.0	186.0	209.0	220.0	223.0	227.0	142.0	214.0	..	270.0	..
	<i>Soviet Union</i>					<i>Byelorussian SSR</i>					<i>Ukrainian SSR</i>				
Meat and meat products	48.0	57.0	59.0	58.0	57.0	49.0	62.0	61.0	61.0	60.0	49.0	60.0	61.0	61.0	60.0
Fish and fish products	15.4	16.8	16.4	17.6	17.9	13.9	17.2	15.6	16.3	18.3	15.9	15.9	14.9	16.7	17.3
Milk and milk products	307.0	316.0	318.0	314.0	305.0	371.0	385.0	382.0	369.0	362.0	311.0	335.0	336.0	331.0	326.0
of which:															
Butter	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cereal products	149.0	141.0	139.0	138.0	138.0	144.0	141.0	140.0	140.0	140.0	155.0	151.0	145.0	146.0	146.0
Potatoes	130.0	120.0	119.0	109.0	105.0	245.0	215.0	209.0	200.0	206.0	156.0	143.0	146.0	133.0	140.0
Vegetables	82.0	89.0	95.0	97.0	98.0	70.0	75.0	73.0	77.0	79.0	103.0	118.0	126.0	115.0	112.0
Sugar and sugar products	38.8	40.9	42.8	44.4	43.9	35.1	39.5	40.4	43.3	43.8	41.4	45.4	48.9	51.8	49.2
Vegetable fats and oils	6.8	7.6	8.4	8.8	9.0	4.6	5.7	6.7	7.4	7.8	7.4	8.5	8.9	10.0	9.4
Eggs	159.0	216.0	233.0	239.0	245.0	170.0	260.0	282.0	294.0	299.0	156.0	210.0	232.0	239.0	247.0

Sources: As for table 3.5.1 and CMEA Statistical Yearbook 1982.

^a Excluding butter.^b Including animal fats.^c Sugar only.

TABLE 3.5.11

Stocks of consumer durables per 1000 inhabitants

(Physical units)

	1970	1975	1979	1980	1981	1970	1975	1979	1980	1981	1970	1975	1979	1980	1981
	<i>Bulgaria</i>					<i>Czechoslovakia</i>					<i>German Democratic Republic</i>				
Refrigerators	81	174	224	234	246	177	260	297	305	324	215	322	391	423	445
Washing machines . . .	141	176	211	217	225	276	363	397	411	432	205	277	305	328	341
Television sets	120	197	224	232	240	234	305	334	372	377	276	310	396	408	422
Radio sets	176	226	261	271	277	444	564	595	604	613	351	366	379	383	386
Motor cars	17	46	80	88	94	57	99	132	139	148	60	100	139	148	156
	<i>Hungary</i>					<i>Poland</i>					<i>Romania</i>				
Refrigerators	103	220	282	287	301	70	162	254	274	274	54	96	..	156	192
Washing machines . . .	179	228	294	297	305	185	217	240	258	258	46	68	..	102	155
Television sets	171	226	252	258	262	137	205	254	274	263	82	145	..	210	256
Radio sets	245	240	243	..	..	253	301	438	470	474	179	207	..	251	300
Motor cars	23	55	85	95	103	15	32	59	64	73	6	14	..	29	44
	<i>Soviet Union</i>					<i>Byelorussian SSR</i>					<i>Ukrainian SSR</i>				
Refrigerators	89	178	240	252	262	76	170	227	238	249	82	170	227	250	263
Washing machines . . .	141	189	205	205	205	109	147	157	157	152	137	187	205	203	200
Television sets	143	215	242	249	262	122	188	209	216	228	151	224	247	254	254
Radio sets	199	230	246	250	261	154	196	215	221	222	172	198	221	224	225

Sources: As for table 3.5.1.

TABLE 3.5.12

New dwellings constructed

Country and period	New dwellings (thousands)				New units per 100,000 inhabitants	Average size of dwellings in square metres
	Total	State	Co-operative	Individual		
<i>Bulgaria</i>						
1976-1980	351.8	..	..	..	800	60.7
1979	66.2	33.2	..	33.0	750	59.2
1980	74.3	..	..	..	838	59.0
1981	71.4	..	..	..	803	62.2
Plan 1982	72.6	..	..	..	..	..
1982	73.0*	..	..	..	820*	..
Plan 1983	73.0	..	..	..	..	..
Plan 1981-1985	360.0	..	..	..	810*	..
<i>Czechoslovakia</i>						
1976-1980	648.2	264.6	197.9	185.7	860	41.5
1979	122.7	47.7	39.3	35.7	810	43.0
1980	128.9	50.5	46.0	32.4	840	44.3
1981	95.4	32.4	33.6	29.4	623	45.6
1982	100.0*	..	..	..	655*	..
Plan 1983	95.7	..	..	..	..	..
Plan 1981-1985	480-550	..	..	..	..	..
<i>German Democratic Republic</i>						
1976-1980	559.4	290.3	197.5	71.6	668	61.8
1979	117.4	62.2	37.3	17.9	701	62.6
1980	120.2	62.0	39.2	19.0	718	62.7
1981	125.7	64.8	39.4	21.5	753	..
Plan 1982	117.5	..	..	13.3	702	..
1982	122.4	..	..	14.1	702	..
Plan 1983	117.5	..	..	12.9	702	..
Plan 1981-1985	600.0	..	252-270	60	..	..
<i>Hungary</i>						
1976-1980	452.7	162.2	..	290.5	837	65.3
1979	88.2	34.1	..	54.1	827	65.0
1980	89.1	30.4	..	58.7	835	65.0
1981	77.0	22.8	..	57.2	722	65.0*
Plan 1982	77.0	19-20	..	57-58	722	..
1982	75.6	18.9	..	56.7	710	65.0*
Plan 1983	75.0-77.0	17.0	..	58.0-60.0	712	..
Plan 1981-1985	370-380	115-120	..	255-260	..	..
<i>Poland</i>						
1976-1980	1308.3	245.0	724.2	339.1	749	62.0
1979	278.0	53.4	152.6	72.0	789	63.8
1980	217.1	39.4	122.0	55.7	610	64.0
1981	187.0	32.0	109.0	46.0	519	63.9
Plan 1982	200.0	..	..	..	..	..
1982	185.3	31.5	97.8	56.0	509	67.2
<i>Romania</i>						
1976-1980	840.6	..	755.3	85.3	770	74.2
1979	191.6	..	179.3	12.3	869	74.5
1980	197.8	..	186.6	11.2	891	74.4
1981	161.4	..	150.5	10.9	730	75.0
Plan 1982	190.0	..	170.0	20.0	847	..
1982	150.0*	..	..	..	..	..
Plan 1981-1985	900.0	..	800.0	100.0	..	..
<i>Soviet Union</i>						
1976-1980	10241	8388	..	1853	784	51.5
1979	1933	1572	..	361	734	52.5
1980	2004	1667	..	337	755	52.3
1981	1998	1647	..	351	746	53.3
1982	2000	..	..	..	745	..

Sources: As for table 3.5.1.

* State and co-operatives.

plans for dwelling construction for 1982 were not fulfilled in Poland and the number of new apartments completed during the year was about the same as in 1981 (table 3.5.12).

There were also changes in the structure of housing finance in some countries (Czechoslovakia, Hungary,

Romania) where the structure of housing construction (as between state-sponsored, private and individually built dwellings) has been practically unchanged during the last few years. In other countries, the share of state-sponsored dwelling construction in 1981-1982 decreased, while the share of co-operative and private

TABLE 3.5.13

Turnover of retail trade and services
(Average annual percentage change)

Country and period	Total	Food	Non-food	Services
Bulgaria				
1976-1980	3.9	2.4	4.7	..
1979	2.3	0.8	3.5	-0.9
1980	3.0	-0.3	5.3	..
1981	4.6	3.6	5.3	..
Plan 1982	3.8	..	..	8.4
1982	4.9 ^a	..	..	..
Plan 1983	4.1	..	..	2.7
Plan 1981-1985	3.9	..	6.2	8.5
Czechoslovakia				
1976-1980	1.7	2.3	1.2	5.5
1979	-0.1	1.6	-1.4	5.3
1980	-0.4	2.9	-3.1	9.3
1981	1.4	2.5	0.5	2.6
Plan 1982	2.8	..	..	..
1982	-1.0*	..	..	..
Plan 1983	2.0	1.2	2.7	..
German Democratic Republic				
1976-1980	4.1	3.4	4.8	..
1979	3.5	2.8	4.2	..
1980	4.5	3.2	5.8	..
1981	2.5	2.9	2.1	..
Plan 1982	4.0	..	..	..
1982	0.9	..	..	..
Plan 1983	3.0	..	..	..
Plan 1981-1985	3.7-4.1	..	..	..
Hungary				
1976-1980	2.6	1.9	3.2	10.9
1979	1.7	-0.4	3.5	10.9
1980	0.1	1.5	-1.1	14.0
1981	3.2	2.2	4.0	13.0
1982	1.1	0.5	1.6	..
Plan 1983	-0.5*	..	..	..
Poland				
1976-1980	3.3	3.4	3.7	7.3
1979	2.6	4.6	2.9	4.6
1980	1.4	-0.3	2.0	5.3
1981	-1.9	-8.1	7.5	0.4
1982	-17.0	-16.0	-21.0	-12.0
Plan 1983 ^d	11.2 ^c	3.7 ^c	..	..
Romania^d				
1976-1980	7.9	7.4	8.4	11.4
1979	5.4	7.0	3.7	10.6
1980	6.6	5.5	6.3	..
1981	4.2	2.4	6.4	7.5
Plan 1982	4.6	..	..	11.2
1982 ^e	1.0*	..	1.1*	..
Plan 1983	3.0	..	..	..
Plan 1981-1985	4.8	..	4.8	12.0
Soviet Union				
1976-1980	4.5	3.5	5.4	7.5
1979	4.1	3.5	4.1	7.7
1980	5.2	4.4	6.7	7.2
1981	4.3	1.3	6.9	6.2
Plan 1982	3.1	..	..	6.9
1982	0.3	..	..	4.7
Plan 1983	5.4	..	..	6.8
Plan 1981-1985	4.2	..	..	7.6
Byelorussian SSR				
1976-1980	4.7	4.1	5.0	7.7
1979	5.9	5.4	6.8	7.1
1980	5.3	4.5	4.4	8.1
1981	4.0	1.6	6.7	6.7
Plan 1982	2.6	..	..	6.8
1982	..	..	..	..
Plan 1983	5.0	..	..	6.7
Plan 1981-1985	3.1	..	..	7.0

TABLE 3.5.13 (CONTINUED)

Country and period	Total	Food	Non-food	Services
Ukrainian SSR				
1976-1980	4.1	3.1	5.0	8.4
1979	3.7	2.8	5.0	7.3
1980	4.3	2.9	5.0	4.6
1981	3.3	1.3	5.0	4.7
Plan 1982	3.3	..	..	6.5
1982	..	..	..	..
Plan 1983	6.0	..	..	6.8
Plan 1981-1985	3.9	..	..	7.1

Sources: As for table 3.5.1.

Note: Retail turnover is shown at constant prices, except where otherwise stated, and services are at current prices.

^a Bulgaria: January-June report for sales through state and co-operation network; Czechoslovakia: current prices; Hungary: provisional figures; Romania: it is assumed that food sales changed slightly in real terms, and that non-food sales increased at a rate of the deliveries of industrial goods.^b Excluding alcoholic beverages.^c Planned increase in deliveries to the domestic markets.^d Current prices.^e Estimates on constant prices.

apartments increased fast.²⁶⁶ In these countries, the absolute fall in the volume of new dwellings affected mainly the state sector. In Hungary, for example, the share of state-built apartments went down from almost 39 per cent in 1979 to an estimated 25 per cent in 1982. A similar drop was recorded in Czechoslovakia in 1981 (to 34 per cent as compared with 39 per cent in 1980). Most countries' plans for 1983 call for the stabilization of output of new dwellings at current levels.

3.5(vii) Retail trade

Retail trade in eastern Europe and the Soviet Union was clearly affected by changes in domestic output and exports, and also by limitations on imports of foodstuffs and industrial consumer goods (table 3.5.13). In *Bulgaria*, estimated growth rates in 1982 were at the same level as in 1981. Some over-fulfilment of the plans was recorded during the first half of the year. In *Czechoslovakia*, the slowdown which had already appeared in 1981 appears to have continued in 1982. Retail sales increased by 2.9 per cent in current prices but, taking into account the latest round of price increases (estimated at 4 per cent for total retail turnover and some 7 per cent in the case of foodstuffs), a drop of some 1 per cent in the volume of retail trade is probable. A large part of this decline may have fallen on food sales, where substantial price increases for meat, some meat products and tobacco and alcoholic beverages succeeded in achieving a balance between supply and demand during 1982. In the *German Democratic Republic*, some deceleration in retail sales may have taken place but if so it was among the smallest in the region. The rise in sales was slow and probably mainly reflected higher turnover of "semi-luxury" commodities (some imported goods, coffee, cocoa and some kinds of citrus fruit). As mentioned earlier, temporary shortages of certain basic foodstuffs in Czechoslovakia and the German Democratic Republic during 1982, did not greatly affect overall supplies and

²⁶⁶ The difference between the three financial régimes is the following: the state-sponsored apartment is financed (in principle) fully through state budgetary finance distributed by the state (usually by local councils) according to social criteria (priority is given to elderly people, newly-wed couples, large families, etc.) and at a low rate of interest. Co-operative apartments are built, financed and organized by tenants' co-operatives and maintained from their own budget. Private apartments are financed, organized and often constructed by private persons or organizations. Generally, credit conditions are most favourable in the case of co-operative apartments.

reflected mainly an insufficiently rapid response to changes in the structure of consumer demand. In *Hungary*, the net effect of regular increase in nominal earnings and higher demand probably resulted in a slight recovery in retail sales in 1982. The price rises appear to have involved changes in price relatives, mostly in the case of foodstuffs. Higher quality products were subject to the free movement of prices (with the exception of meat and some meat products) and retail trade organizations were given the right to vary selling prices for many kinds of foodstuffs. Sales of services were probably the most buoyant component of retail sales in nominal and in

real terms. In *Poland*, retail sales in real terms are estimated to have declined by 17 per cent, reflecting a drop in both food and non-food sales and also in services. The official report on the economy in 1982 states, however, that sales of most food items dropped during the year. A large part of the decline was due to shortages of industrial consumer goods, including almost all clothing and footwear. Sales of services are reported to have fallen also, but by less than total retail sales. In *Romania* there was an estimated 1.0 per cent increase in the real value of retail sales. In the *Soviet Union*, the increase in retail sales was 0.3 per cent in 1982.

3.6 CHANGES IN THE RATE OF GROWTH OF LABOUR PRODUCTIVITY IN THE CENTRALLY PLANNED ECONOMIES DURING THE 1970s: PRELIMINARY ANALYSIS

Introduction

This paper is the first stage of a programme to examine the causes and consequences of recent trends in labour productivity growth in the centrally planned economies of the ECE region. Given the complex interrelationship between labour productivity and other aspects of economic growth – and the role of the planning process itself in regulating the pace and impact of events which have influenced the growth of labour productivity – the paper does not offer any systematic explanation of the various elements which have influenced the phenomenon. It attempts rather to examine developments in various areas of the economies under review which may have had a bearing on labour productivity growth, including central planning decisions themselves. It also presents the results of some empirical work relating labour productivity with other macro-economic variables.

In section (i), the main trends in productivity growth as a whole and by sectors and industrial branches during the 1970s are summarized, the main focus being upon the deceleration which occurred between the first and second halves of the decade; the effects on productivity growth of shifts in the structure of output between sectors and branches where average productivity levels differ is also taken into account. In section (ii), five-year plan targets for labour productivity, where available, are discussed in the context of the increasing stress placed by the authorities on the more efficient use of all production factors. In section (iii), the paper turns to a discussion of the measures taken to absorb the impact of changes in the global economic environment between the first and second halves of the 1970s, and their impact upon sector and branch patterns of labour productivity growth.

In section (iv), following a brief discussion of some possible reasons for the slowdown in output growth which accompanied the productivity deceleration, the results of a statistical exercise designed to quantify the close relationship between labour productivity and output growth are presented and discussed. This is followed in section (v) by an examination of several specific topics having a possible bearing on the productivity deceleration – notably recent trends in investment and the role of domestic and imported technology. A short review of recent policy responses to promote improvements in labour productivity is given in section (vi). Section (vii) summarizes the main findings of the paper.

It should be noted that throughout the paper productivity is defined as annual output divided by average annual employment. It ignores changes in hours and days worked as well as changes in the overall labour intensity. In fact, though no sector and branch and few aggregate figures are available, there has been some reduction in the number of hours worked per day and in days worked per year in the centrally planned economies. It should also be borne in mind that throughout the paper, unless otherwise stated, the sectoral and material sphere labour productivity data are based on net output

(net material product) while industry branch data are based on gross output (including intermediate consumption).

3.6(i) Labour productivity and employment trends 1970–1980

In the material sphere²⁶⁷ of the economy, the centrally planned economies recorded high average growth rates of labour productivity over the decade as a whole, ranging from 3.7 per cent annually in the Soviet Union to 4.3 per cent in Czechoslovakia, 4.4 per cent in the German Democratic Republic, 4.8 per cent in Poland, 4.9 per cent in Hungary, 6.9 per cent in Bulgaria and 9 per cent in Romania. However, there was a marked slowdown in the rate of labour productivity increase between the first and second halves of the 1970s (table 3.6.1). In most countries labour productivity growth in the material sphere between 1976 and 1980 ranged between a 3–3.7 per cent average annual compound rate of growth; it fell to 1.7 per cent in Poland but was as high as 6–7 per cent in Bulgaria and Romania. These growth rates were generally between 60 and 80 per cent of those registered in the first half of the decade, but the deceleration was particularly marked in Poland (one third of previous performance) and to a lesser extent in Hungary (just over half the 1970–1975 rates).

The decline in productivity growth rates occurred in most sectors and industrial branches of the economies. The deceleration of industrial productivity (net basis) was smaller than for the material sphere as a whole in five east European countries, but was higher in Czechoslovakia and also in the Soviet Union. Output performance in Bulgaria, where the productivity deceleration was least, was boosted by strong growth in the trade and material supply sector and, within industry, in the energy, chemical, construction material and textile industries. In Romania labour productivity growth accelerated within industry in the engineering, building materials, textile and food industries. With only a few other exceptions (the trade and material supply sector in Czechoslovakia, the fuel/energy and engineering industry in the German Democratic Republic, energy in Hungary and agriculture and light industry other than textiles in the Soviet Union), the slowdown was widespread, though to various degrees. Particularly big decelerations were registered in most countries in the metallurgical, fuels and, in some cases, in the chemical and light industries.

In table 3.6.2, the changes in labour productivity have been broken down to show the contribution of structural changes in employment. The procedure followed was a

²⁶⁷ In the centrally planned economies the principal over-all production aggregate (net material product) excludes the value of all personal and public services generated (the non-material sphere) and relates only to the production of tangible goods and to those service activities (transport, communications, material technical supply etc.) which contribute to their production (the material sphere).

TABLE 3.6.1
Labour productivity 1971–1975 and 1976–1980
(Average annual compound percentage change)

	Bulgaria		Czechoslovakia		German Dem. Rep.		Hungary		Poland		Romania		Soviet Union	
	1971– 1975	1976– 1980	1971– 1975	1976– 1980	1971– 1975	1976– 1980	1971– 1975	1976– 1980	1971– 1975	1976– 1980	1971– 1975	1976– 1980	1971– 1975	1976– 1980
A. Material sphere														
Industry	6.38	5.45	5.48	2.96	5.41	4.52	7.43	5.08	7.60	2.21	6.38	4.86	6.20	3.28
Construction . .	6.66	3.67	5.27	0.96	5.16	1.57	3.83	3.93	7.45	–4.42	6.05	5.42	2.73	1.87
Agriculture . . .	5.87	–2.60	4.22	1.00	4.41	0.51	6.00	2.01	2.71	–0.57	10.42	6.88	1.71	3.45
Transport and communications	8.93	3.73	6.41	4.57	2.93	2.80	3.90	1.72	10.04	2.91	6.80	–1.48	4.21 ^a	1.43 ^a
Trade	8.89	21.42	2.38	5.72	6.75	3.30	5.84	1.47	7.72	1.83	11.22	6.51	..	..
Total	7.61	6.10	5.35	3.21	5.23	3.66	6.37	3.52	7.68	1.66	11.04	6.95	4.26	3.21
B. Industry														
Energy	2.44	3.72	2.98	2.06	1.84 ^b	3.27 ^b	6.41	6.51	5.54	4.50	8.15	3.49	5.41	2.61
Fuel	10.65	4.12	3.30	1.69	..	..	5.02	1.72	5.23	0.50	4.25	–0.28	7.42	1.72
Metallurgy . . .	9.58 ^c	4.06 ^c	4.81	2.42	7.19	3.35	4.57	2.58	8.39	3.07	6.79	3.39	4.91 ^c	1.56 ^c
Engineering and metal working .	9.20	7.41	7.65	5.47	5.98	6.09	7.33	3.95	9.20	5.90	6.62	6.83	8.52	6.18
Chemical	6.47 ^d	6.75 ^d	8.19	5.07	9.06 ^d	4.49 ^d	8.74 ^d	7.67 ^d	8.51	4.71	7.89	6.20	8.10	3.67
Construction materials . . .	5.20	6.34	6.02	4.15	8.04	2.00	4.84 ^e	5.05 ^e	7.37	3.60	7.76	11.14	5.68	1.14
Wood and paper	6.85	4.78	6.31	4.10	..	..	..	..	6.60	6.07	5.30	6.31	5.62	1.90
Textiles	4.52	5.43	5.96	3.82	7.09	5.21	5.57	4.72	5.74	4.60	4.45	6.46	4.65	2.36
Other light ^f . .	5.08	3.06	5.75	4.19	4.93 ^f	4.86 ^f	6.58 ^f	3.67 ^f	6.57	4.89	6.51	5.59	3.49 ^h	3.90 ^h
Food	5.90	3.85	4.33	2.74	4.67	0.20	2.65	2.99	5.47	2.73	3.18	4.83	4.42	1.11
Total	6.60	4.94	6.00	3.91	6.04	4.46	6.18	4.51	6.99	4.24	5.66	5.76	5.82	2.82

Sources: National statistical publications and ECE Secretariat estimates.

Note: A number of apparent discrepancies between the above estimates and official figures, (for instance those in table 3.6.4) stem from the fact that the ECE data base by sector and branch incorporates attempts to rebase aggregate output indices on as up-to-date as possible output weights. Differences are however relatively small and trends remain unaffected.

^a Includes trade and procurement etc., and other unspecified activities.

^b Includes fuel.

^c Excluding non-ferrous metallurgy.

^d Includes oil refining.

^e Includes glass.

^f Includes wood and paper.

^g Unless otherwise indicated, other light industry includes clothing, footwear, leather, glass and ceramics, and printing.

^h Clothing, leather, furs and footwear only.

simple normalization technique²⁶⁸ to separate productivity change in the material sphere and in industry into three components:

The labour productivity change which would have occurred in a given period if the structure of employment had remained the same as in the initial year (i.e. change due only to intra-sectoral or branch changes in labour productivity).

The labour productivity change due to the re-distribution of employment between sectors or branches with different labour productivity levels (shift effect).

The interaction or joint effect of the previous two components (which arises because in an additive decomposition the total change cannot be allocated exactly amongst components).

The results of this exercise show significant inter-country differences in the contribution of structural

shifts in employment to productivity changes in the material sphere. Their contribution was for instance very large in Poland in 1976–1980, and also in Romania in the first as well as the second half of the 1970s – accounting for more than one quarter of the change in labour productivity. Shift effects were also strong in Bulgaria in 1971–1975, though they weakened somewhat in 1976–1980. In all three cases, this reflected above all labour transfers out of agriculture and into the industrial sector, where productivity levels were between two and a half and four times those in the former sector. In Czechoslovakia, structural effects were also noticeable – contributing 6–7 per cent of total labour productivity growth. In the Soviet Union, such effects became more important in the second half of the decade, contributing about 4 per cent of total labour productivity growth. In the German Democratic Republic and Hungary, these effects were relatively small and declined over the decade.

Within industry, the picture was somewhat different. Structural shift effects were mostly negative in the first half of the decade – notably in Bulgaria, Romania and the Soviet Union where their productivity-inhibiting effects accounted for 3–5 per cent of labour productivity growth recorded. For the most part this reflected the rising share of employment in the engineering industries where (except in Bulgaria) labour productivity levels are lower than average. In the second half of the decade such negative effects virtually disappeared, and positive effects ranging between 4 and 7 per cent of labour productivity growth were recorded. This reflected the rising share of employment in the high productivity chemical and metallurgical industries, and also the food branch, in two of the countries where the employment

²⁶⁸ The normalization formula is as follows:

$$\frac{P_t - P_o}{P_o} = \frac{\sum_{i=1}^n (P_{it} - P_{io}) e_{io}}{P_o} + \frac{\sum_{i=1}^n (e_{it} - e_{io}) P_{io}}{P_o} + \frac{\sum_{i=1}^n (P_{it} - P_{io})(e_{it} - e_{io})}{P_o}$$

where P_{it} denotes the productivity level in sector i ($i = 1, 2 \dots n$) and e_{it} the sectoral shares in total employment in period t .

The first component on the right-hand side stands for the “pure” or intra-sectoral productivity effect and the second for the shift effect. The third component shows the joint or interaction effect of the first two components.

TABLE 3.6.2
Decomposition of labour productivity changes in the material sphere and in industry^a
(Percentage of total labour productivity change)

	Intra-sectoral effects		Shift effects		Interaction effects	
	1971-75	1976-80	1971-75	1976-80	1971-75	1976-80
A. Material sphere						
Bulgaria	82.6	86.3	13.4	8.2	4.0	5.5
Czechoslovakia	91.9	92.4	6.8	5.6	1.3	2.0
German Democratic Republic	100.3	99.8	0.1	-0.1	-0.4	0.3
Hungary	96.0	101.7	3.6	-0.3	0.4	-1.4
Poland	85.0	64.9	8.8	27.2	6.2	7.9
Romania	65.3	70.5	26.0	25.6	8.7	3.9
Soviet Union	98.1	95.3	0.9	4.3	1.0	0.4
B. Industry						
Bulgaria	102.8	99.8	-2.7	-0.1	-0.1	0.3
Czechoslovakia	98.3	99.3	1.1	0.4	0.6	0.3
German Democratic Republic	100.8	95.9	0.1	4.7	-0.9	-0.6
Hungary	93.3	95.7	5.3	4.1	1.4	0.2
Poland	100.8	99.4	-1.0	0.7	0.2	-0.1
Romania	103.3	98.9	-4.1	0.7	0.8	0.4
Soviet Union	105.1	96.6	-4.8	7.4	-0.3	-4.0

Sources: National statistical publications and ECE Secretariat estimates.

^a Based on the material sphere sector and industrial branch components shown in table 3.6.1 plus other (unidentified) sectors and branches.

shift contribution was relatively large (German Democratic Republic and Hungary). In the Soviet Union, where the effect was biggest, the rise in employment in the high-productivity chemicals and also perhaps in the non-ferrous metallurgy branches was the main contributor, while employment in light industry and especially textiles, where labour productivity levels were below average, also declined relative to total employment.

In summary, positive structural employment effects on total labour productivity growth in the material sphere declined in most countries of the region in 1976-1980 as compared with 1971-1975. In industry, labour productivity was boosted more by structural shifts in employment in 1976-1980 than in 1971-1975 though their contribution was on the whole not very big.

The decline in productivity growth in the material sphere was accompanied by low or declining rates of employment growth throughout the decade (table 3.6.3). Indeed in Hungary and Poland the work force in the material sphere actually declined in absolute terms between 1975 and 1980, with most of the movement concentrated in the industrial sector in the former country and in agriculture in Poland. In other countries, employment growth in the material sphere ranged between 0.2-1 per cent annually in the later period (compared with a range of 0.3-1.5 in 1971-1975). The work force employed in the services sector (non-material

sphere) however continued to increase at above average rates in all countries of the region - by a minimum of 1.6 per cent annually in Romania to a maximum of 2.2 per cent in Czechoslovakia and in the Soviet Union. Non-material sphere employment, which accounts for between 13 and 24 per cent of the total, thus increased its share of employment in all countries.

Since, at the level of sectoral and branch disaggregation of output, it is clear that structural change effects have in the main been positive during 1976-1980, the constraints on production implied by declining growth rates have been associated mainly with intra-sectoral and branch productivity changes, the causes of which the rest of this paper will attempt to isolate.

3.6(ii) Labour productivity and the five-year plans 1966-1980

As the rise in population of working age has decelerated in recent years, policy makers in the centrally planned economies have increasingly stressed the importance of a more efficient use of all production inputs and in particular improvements in labour productivity. The slowdown in the increment of the active population became particularly apparent in 1976-1980 in all the countries under review except the German Democratic

TABLE 3.6.3
Employment 1971-1975 and 1976-1980
(Average annual compound percentage change)

	Industry		Agriculture		Material sphere		Non-material sphere		Total	
	1971-1975	1976-1980	1971-1975	1976-1980	1971-1975	1976-1980	1971-1975	1976-1980	1971-1975	1976-1980
Bulgaria	2.7	1.3	-4.6	-4.5	0.2	0.5	4.5	2.0	0.8	0.4
Czechoslovakia	0.6	0.5	-4.0	-2.6	0.3	0.4	1.4	2.2	0.5	0.8
German Democratic Republic	0.4	0.5	-2.2	-0.4	0.1	0.4	2.2	1.8	0.5	0.7
Hungary	0.2	-1.1	-3.6	-1.0	-0.1	-0.6	3.4	2.2	0.5	-
Poland	3.0	0.4	-1.4	-2.3	1.5	-0.5	3.4	1.9	1.8	-0.1
Romania	6.4	3.4	-4.6	-4.5	0.3	0.2	3.0	1.6	0.6	0.4
Soviet Union	1.5	1.6	0.3	-	1.3	1.0	1.5	1.6	1.8	1.4

Sources: National statistical publications and ECE Secretariat estimates.

^a Includes trade and material supply plus other (unspecified) sectors of the material sphere.

TABLE 3.6.4

Planned and actual labour productivity growth in industry by five-year periods 1966–1985
(Average annual percentage change)

	1966–1970 Actual	Plan	1971–1975 Actual	Plan	1976–1980 Actual	1981–1985 ^a Plan
Bulgaria	6.6	7.6	6.2	8.5	4.4	4.6
Czechoslovakia	5.4	5.3	5.9	5.3	3.7	2.2–3.2
German Dem. Rep.	6.0	6.2	6.2	5.4–5.7	4.4	4.6
Hungary	3.4	4.1–4.4	6.1	6.0	4.5	4.5–5.0
Poland	4.9	5.6–5.9	7.3	7.4–7.8	4.3	..
Romania	7.4	7.3	6.2	8.5–9.0	5.8	7.0
Soviet Union	5.5	6.8	5.8	5.6	2.8	4.2

Sources: National statistical publications, plan documents and ECE Secretariat estimates.

^a Derived from planned output data and rough estimates of employment growth.

Republic (where it had been low for a number of years) and these trends will continue in the current five-year plan period 1981–1985. Moreover, the apparent rise in the share of employment in the non-material sphere relative to total employment has further constrained increases in employment in the material sphere – particularly since it has been accompanied by a fall in the non-material sphere's share of fixed assets.

The analysis of policy towards labour productivity issues is difficult because it is allied to almost all economic processes and phenomena. In this sense, most important changes in economic policies or systems of planning and management were linked, *inter alia* with the improvement of labour productivity. Current general economic policy designed to ensure better overall economic performance on the basis of increased factor efficiency – the “intensification” of economic activity – was a much more important theme of national planning strategies in the second half of the 1970s than in previous periods, and was again the central feature of plans and long range discussions for the period 1981–1985 and beyond – particularly given the decreasing supply not only of labour but of all production factors.

Policy towards labour productivity took a variety of forms. In some cases they were changed over time according to the results obtained, and economic targets were adjusted to meet new economic conditions. The following paragraphs summarize these policies as they were reviewed in the five year plans in the countries of the region, and highlight some of the specific objectives which were expected to promote labour productivity growth.

In the course of the 1960s and also in the first half of the 1970s, economic policy developments took place against a background of relatively high labour productivity growth outcomes both by international standards and in relation to past performance. The planned industrial labour productivity growth targets for 1971–1975, for instance, were higher than those actually attained in 1966–1970 in all the centrally planned economies but Czechoslovakia and Romania, and in several countries ambitious targets were not only achieved (German Democratic Republic) but even over-fulfilled (Czechoslovakia, Hungary and Poland). In those countries where the plans for labour productivity growth were not implemented (Bulgaria, Romania and the Soviet Union), discrepancies between planned and actual performance were rather small, as shown in table 3.6.4.

Plans for 1976–1980 envisaged higher rates of growth of labour productivity in some countries (Bulgaria, Poland and Romania) compared with the increases attained in the preceding five-year period. In other countries the policy foresaw some decreases in labour

productivity rates of growth. In fact, during the period 1976–1980, a progressive deceleration of labour productivity growth from year to year became apparent and out-turns in all countries of eastern Europe and the Soviet Union were lower than planned.²⁶⁹

Although often not explicitly published in the plans for 1981–1985, estimates based on output growth targets and estimated employment trends indicate that all the east European countries and the Soviet Union expect lower rates of growth of labour productivity in 1981–1985 compared with the targets of the preceding five-year plans. Nevertheless, comparisons of implicit 1981–1985 objectives with actual developments in 1976–1980 bring out some differences in strategy. The Soviet Union and Romania expect higher labour productivity growth rates compared with the outcomes for 1976–1980. Bulgaria, the German Democratic Republic and Hungary plan labour productivity growth at approximately the same levels as, or a little above, those registered in the preceding five-year period. Only in Czechoslovakia does the plan incorporate a continuation of the declining trend in labour productivity growth.

3.6(iii) Policy outcomes

(a) Cushioning World Economic Disturbances

The two foregoing sections show, *inter alia*, that the slowdown in labour productivity growth in the second half of the decade was not only very marked, but that its declining trend was not fully taken into account. This development paralleled the rise in energy fuel and raw material prices though the year-to-year changes in labour productivity trends illustrated in chart 3.6.1 show a rather smooth transition to lower rates of labour productivity growth.

This relatively smooth movement is not altogether surprising. The bulk of fuel and raw material requirements is provided to eastern Europe by the Soviet Union – which did not implement price rises for oil and other materials on the same scale as movements on the world markets – while the Soviet Union itself is largely self-reliant in, or an exporter of, these commodities.

²⁶⁹ “While assessing at its true worth what has been achieved in the period of the Tenth Five-year Plan, the party sees difficulties and shortcomings. I am referring first of all to the fact that we did not succeed in solving, as required, the tasks of boosting labour productivity, accelerated development of certain branches of the national economy and of putting an end to the scattering of capital investments.” – N.A. Tikhonov, *Documents and Resolutions of the XXVI Congress of the CPSU*, Novosti Press Agency Publishing House, Moscow, 1981, p.112.

The post-1973 increases in oil and raw material prices nevertheless led to a deterioration in the east European countries' terms of trade with the Soviet Union. From 1976, the previous method of setting intra-CMEA trade prices was replaced by one using a moving average of world market prices in the preceding five calendar years. While intra-CMEA trade prices thus became more responsive to world price movements, the new system had a considerable "cushioning" effect on eastern Europe's terms of trade losses vis à vis the Soviet Union. It can be illustrated by the movement of the average price of Soviet oil exports to trading partners inside the CMEA trading area, and the world price for crude petroleum shown in table 3.6.5 below (rouble- and US dollar-based indices respectively):

TABLE 3.6.5

**Soviet and world market prices for oil
(Indices)**

	1975/1970 (1970 = 100)	1980/1975 (1975 = 100)
Soviet oil price export to eastern Europe (roubles)*	276	237
World market price of crude petroleum (dollars)	666	295

Sources: National statistics, UN Monthly Statistical Bulletin, New York, and ECE Secretariat estimates.

* Crude and refined products.

Over the whole period 1970–1980, the dollar-adjusted price index of Soviet oil exports to eastern Europe thus rose to 791, whereas the world market dollar price rose to 1964 – a twenty-fold, compared with an eight-fold, increase.

In the east European countries sharp movements also took place in east-west terms of trade, as their export price rise weakened following the fall in demand in the developed market economies. Both phenomena contributed to a real net transfer of resources to other countries (sometimes offset by a rise in net borrowing) which of itself had a direct effect on aggregate labour productivity based on net output. The converse was the case for the Soviet Union, for which a steep rise in oil and gas prices exported to both areas boosted the terms of trade.

(b) Central planning and the adjustment process

In addition to the terms-of-trade developments noted above, other factors tending to change existing cost structures and to affect the material supply situation became apparent in all countries. The *Economic Survey of Europe in 1981* draws attention to "the ever scarcer and increasingly costly supply of material inputs" during the 1970s which affected both domestic supplies throughout the region and also the export cost and supply situation of the Soviet Union – the main supplier of material inputs within the region.²⁷⁰ The impact of material supply scarcities on output is taken up in more detail in section (iv)-(a) below. The focus in the present sub-section is the relatively smooth transition to slower labour productivity growth. Some of the adjustment mechanisms by which it was achieved are basic features of the economic management systems of the centrally planned economies.

In practice, a gradual, rather than an abrupt adjustment may well be considered desirable on social as well as on economic grounds – particularly where economic systems cannot change employment structures in the

short term. Nevertheless, there is a danger that a gradual adjustment process may be unduly prolonged; this, particularly to the degree that the existing employment structure is maintained, will clearly have adverse effects on the growth of labour productivity.

Little appropriate statistical material – for instance on financial transfers between sectors/branches – is available to provide information on the degree to which such fiscal "cushioning" took place, or how long it lasted. A possible indirect approach is, first, to test the degree to which past relative rates of sectoral and branch labour productivity growth were maintained between 1971–1975 and 1976–1980. If past relatives are more or less maintained, it would imply that the economy has on the whole withstood the effect of factors tending to change the growth proportions of the economy. In general, the more successfully this has been done, the more costly (in the short-term at least), in terms of growth foregone, will the "cushioning" process have been – and the greater the adverse effects on labour productivity.

In order to carry out this exercise, coefficients of variation for productivity growth rates were calculated, and are shown for two successive five-year periods in table 3.6.6.

TABLE 3.6.6

Coefficients of variation of individual sectoral and branch labour productivity growth rates, 1971–1975 and 1976–1980

	1971–1975		1976–1980	
	Material sphere ^a	Industry	Material sphere	Industry
Bulgaria	15.5	30.1	75.0	24.7
Czechoslovakia	25.7	24.3	44.8	30.1
German Democratic Republic	21.1	28.6	28.4	40.1
Hungary	26.4	23.5	47.7	34.4
Poland	11.2	17.5	399.7	31.2
Romania	23.7	23.6	69.4	37.6
Soviet Union	27.7	22.6	33.1	45.2

Sources: National statistical publications and ECE Secretariat estimates.

^a Standard deviation divided by the mean rate of productivity growth.

^b Excluding agriculture where random fluctuations due to weather can distort the trend for the economy as a whole.

The table shows that in the material sphere and in industry the variation of labour productivity growth between branches has risen very substantially indeed between the first and second halves of the 1970s in all countries with the sole exception of Bulgarian industry. Annual figures, which for space reasons are not shown here, point to only a small jump in the coefficients of variation in 1974 or 1975, its re-establishment at a lower level up to 1977 or 1978, with large jumps thereafter in virtually all countries except in 1980.

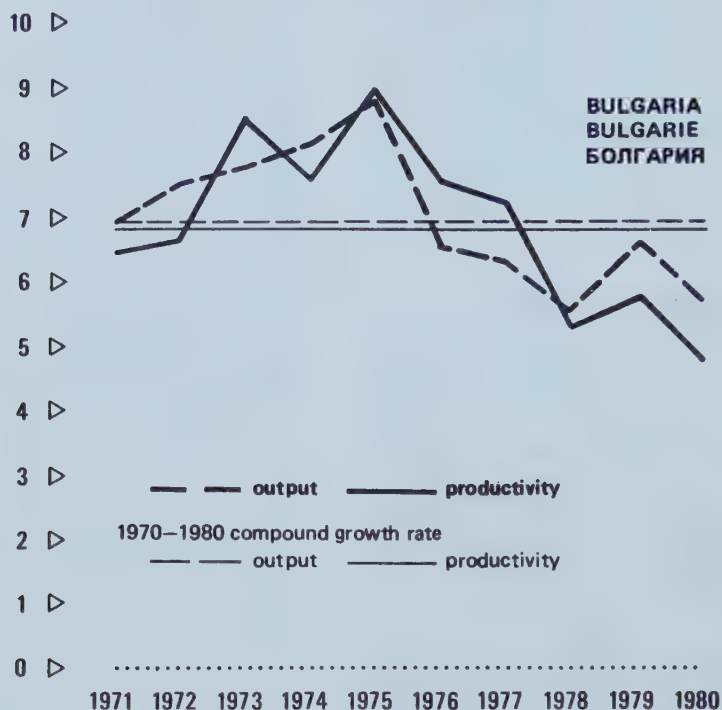
The conclusions of this exercise could be expressed in the following terms: after an initial, rather muted reaction to the post-1973 oil price rise and its ancillary effects on world markets, there were no big immediate sectoral and branch adjustments in the centrally planned economies. This policy of gradual adjustment was aided by increased borrowing abroad which rose very rapidly up to 1975 or 1976 (depending on the country), and continued to grow substantially, albeit at lower rates, up to the end of the decade. The process was accompanied by a significant re-allocation of real resources away from investment and into consumption and foreign trade.²⁷¹

²⁷¹ In the four countries for which data are available, government consumption increased more quickly than private consumption in Czechoslovakia, Hungary and Poland in 1976–1980, while the converse was the case in the German Democratic Republic.

²⁷⁰ *Op. cit.*, p. 135.

CHART 3.6.1.
ANNUAL PERCENTAGE CHANGES
IN OUTPUT (Q) AND PRODUCTIVITY (P)

A. MATERIAL SPHERE (Net output basis)



B. INDUSTRY (Gross output basis)

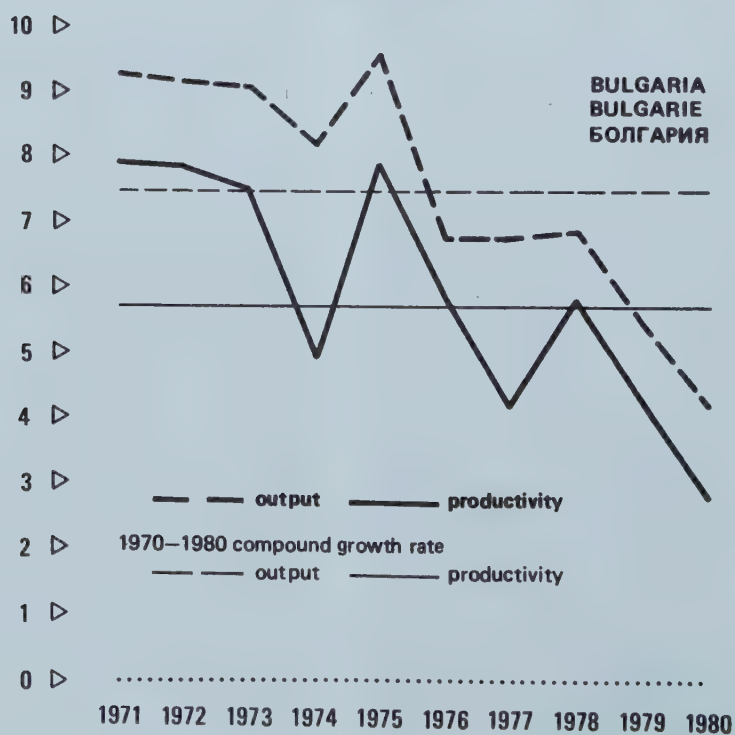


CHART 3.6.1.
ANNUAL PERCENTAGE CHANGES
IN OUTPUT (Q) AND PRODUCTIVITY (P)

A. MATERIAL SPHERE (Net output basis)



B. INDUSTRY (Gross output basis)

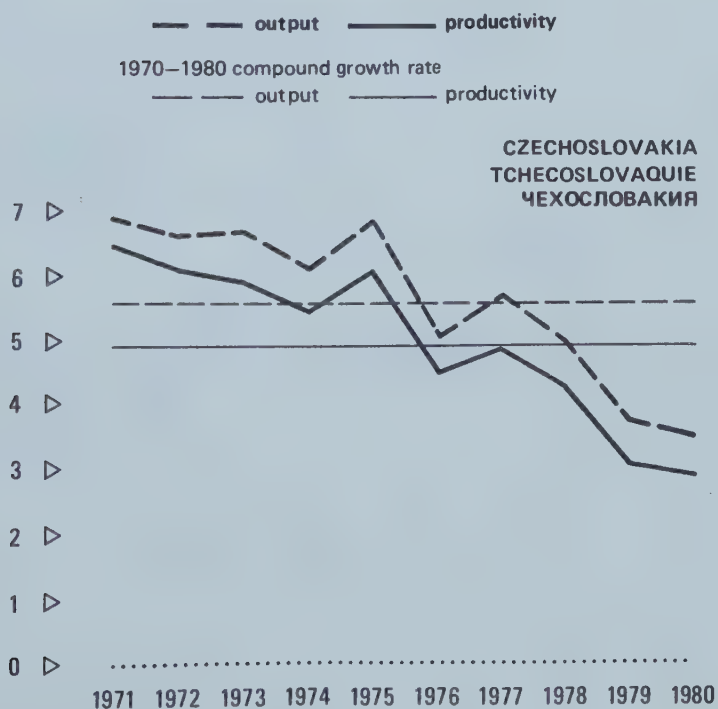
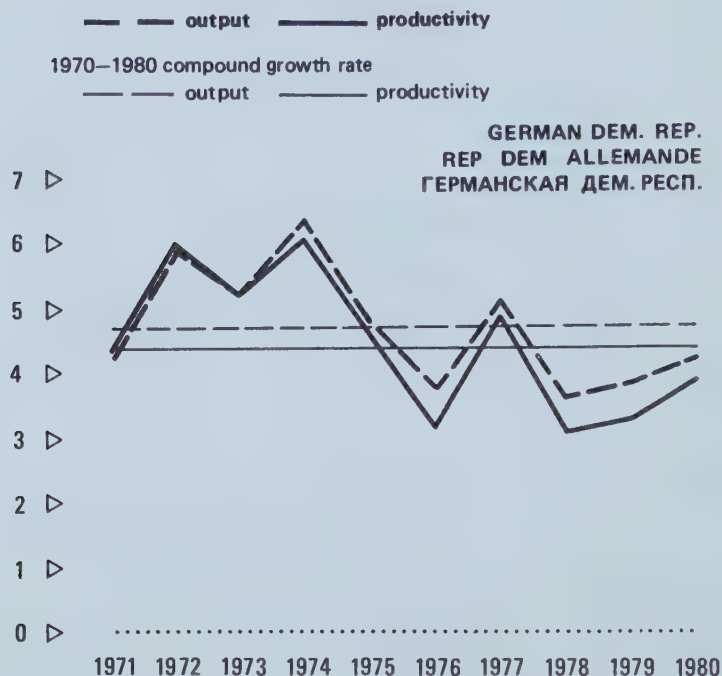


CHART 3.6.1.
ANNUAL PERCENTAGE CHANGES
IN OUTPUT (Q) AND PRODUCTIVITY (P)

A. MATERIAL SPHERE (Net output basis)



B. INDUSTRY (Gross output basis)

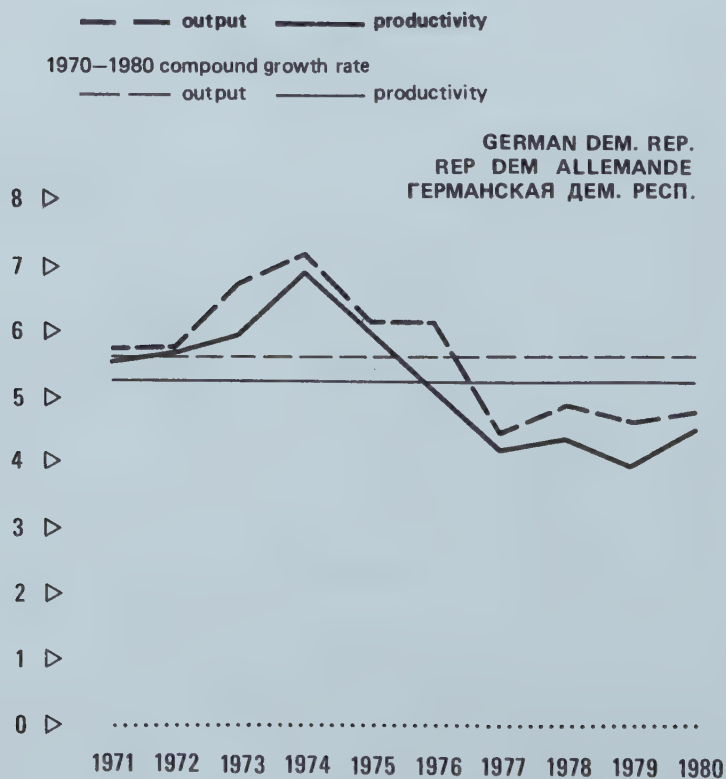
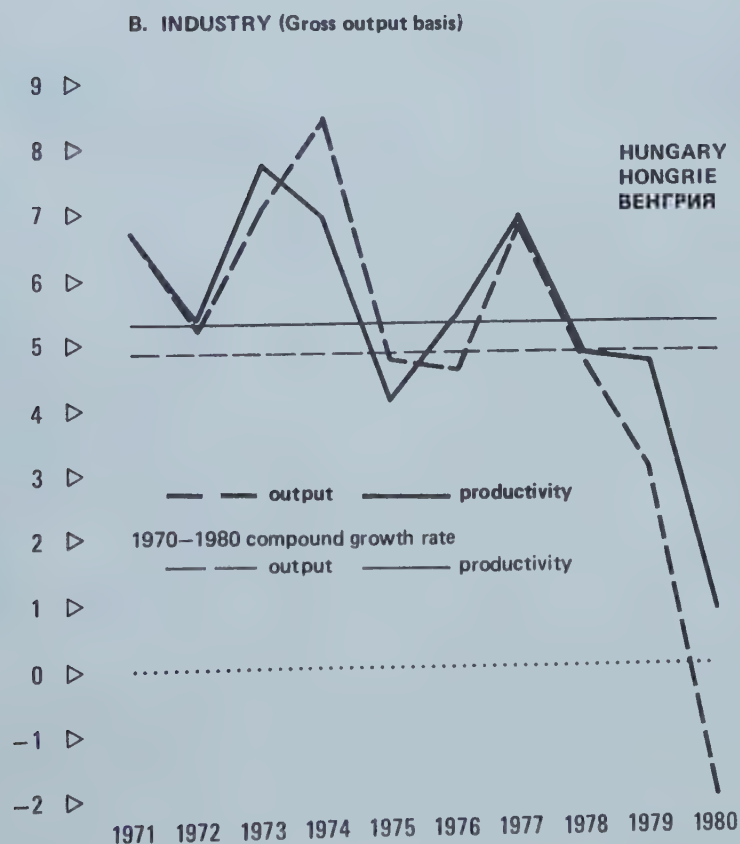
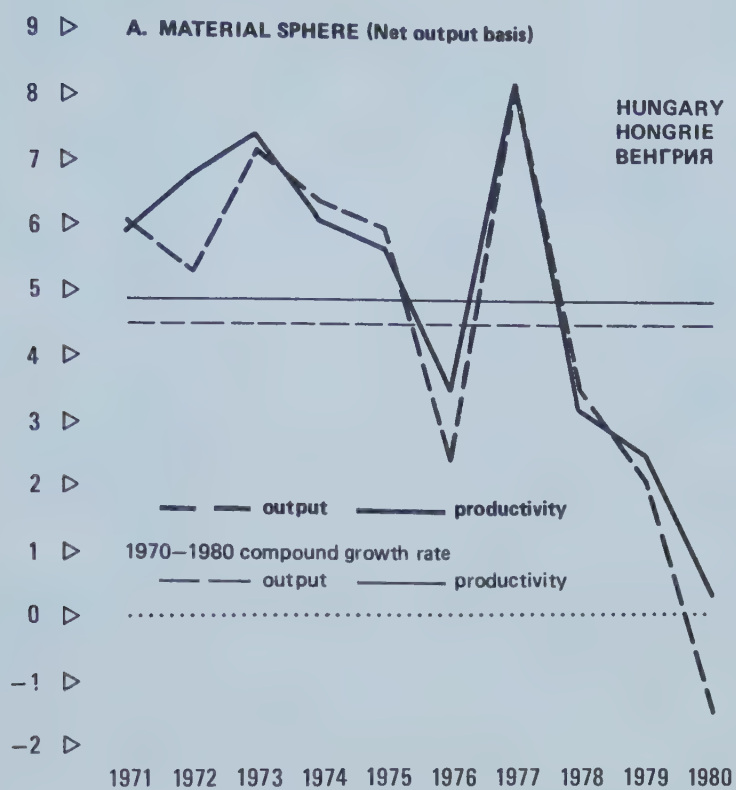


CHART 3.6.1
ANNUAL PERCENTAGE CHANGES
IN OUTPUT (Q) AND PRODUCTIVITY (P)



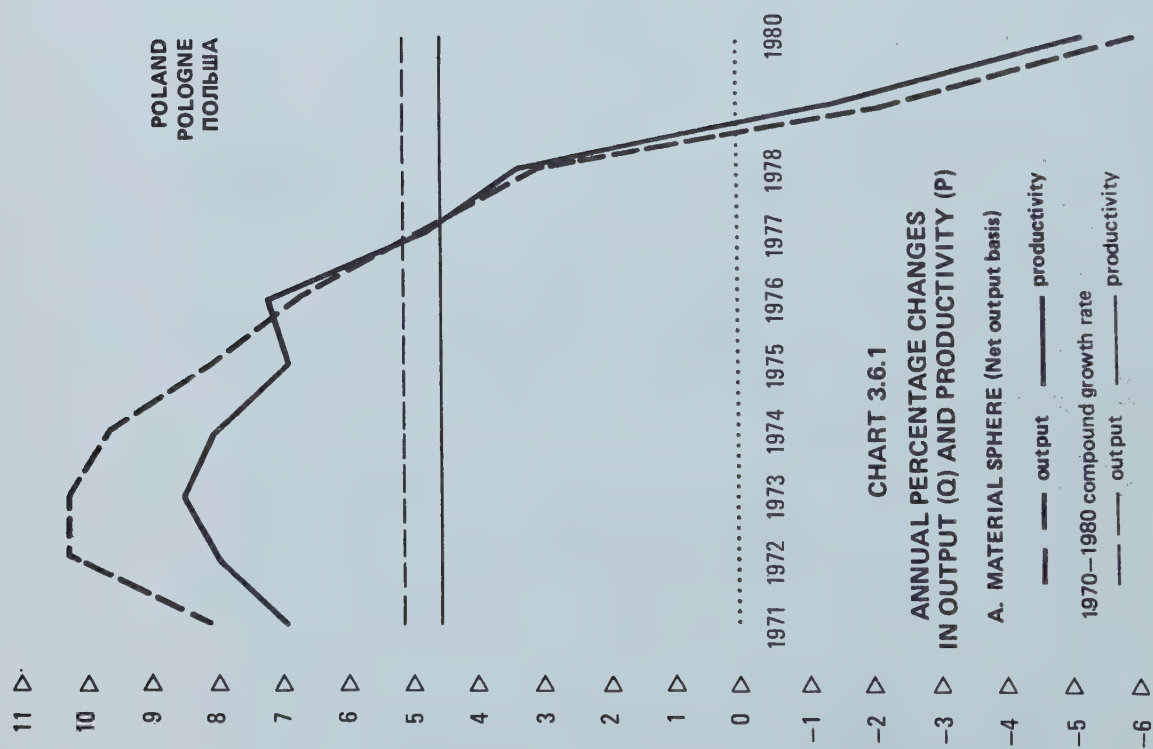
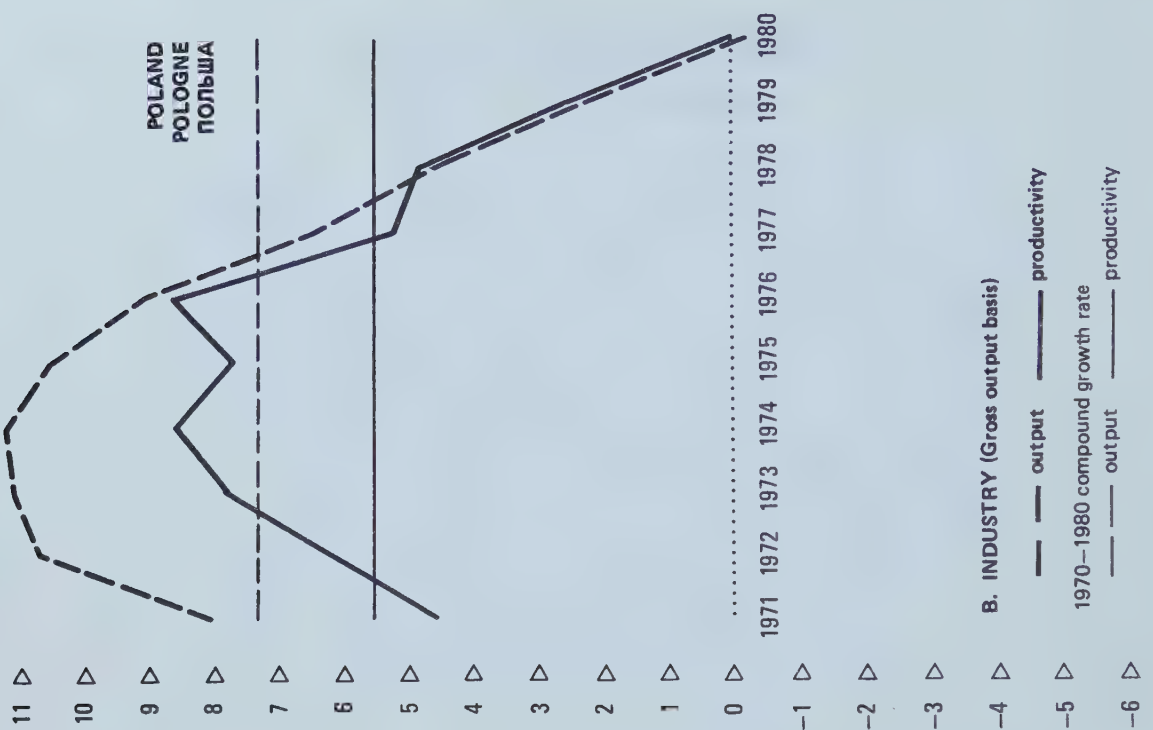


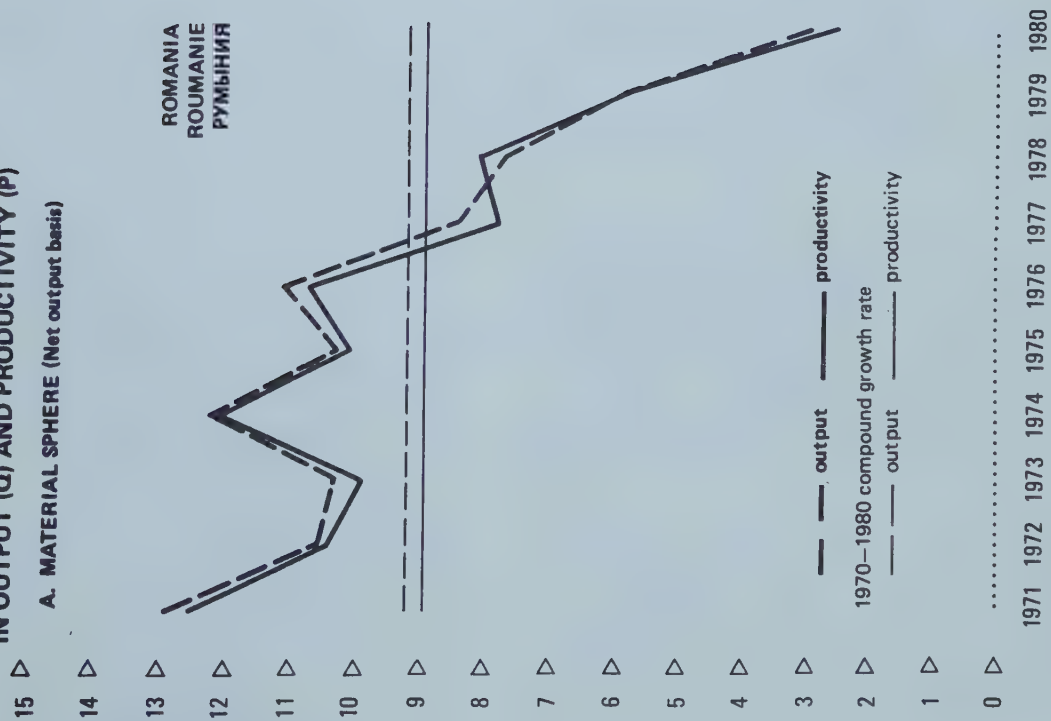
CHART 3.6.1

ANNUAL PERCENTAGE CHANGES
IN OUTPUT (Q) AND PRODUCTIVITY (P)

CHART 3.6.1.

ANNUAL PERCENTAGE CHANGES
IN OUTPUT (Q) AND PRODUCTIVITY (P)

A. MATERIAL SPHERE (Net output basis)



B. INDUSTRY (Gross output basis)

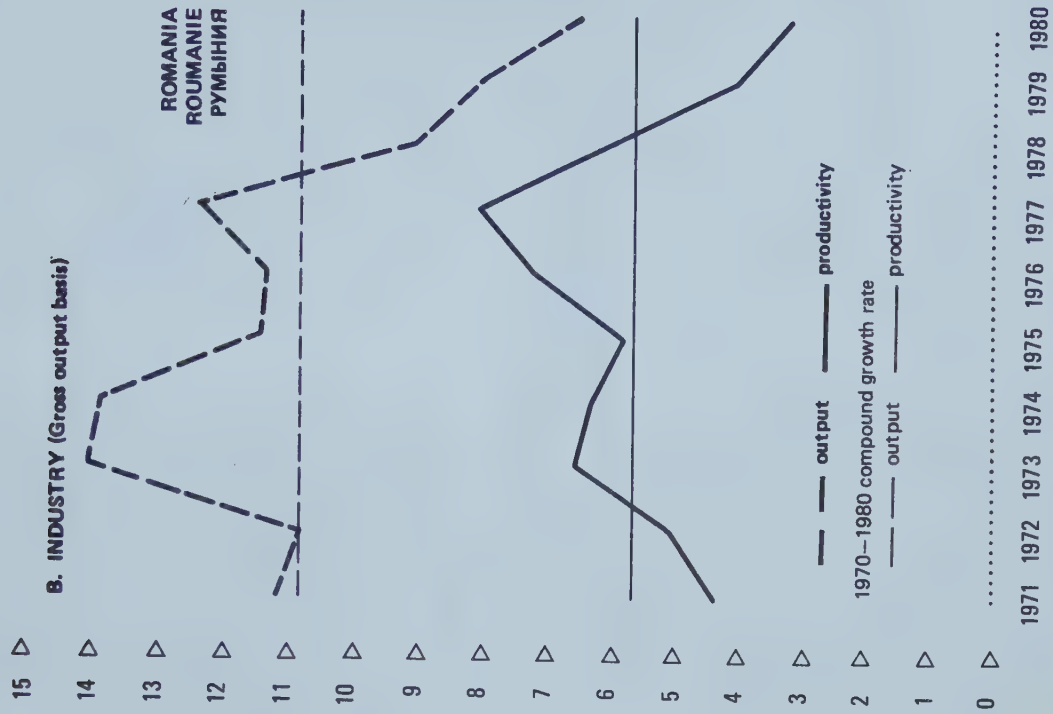
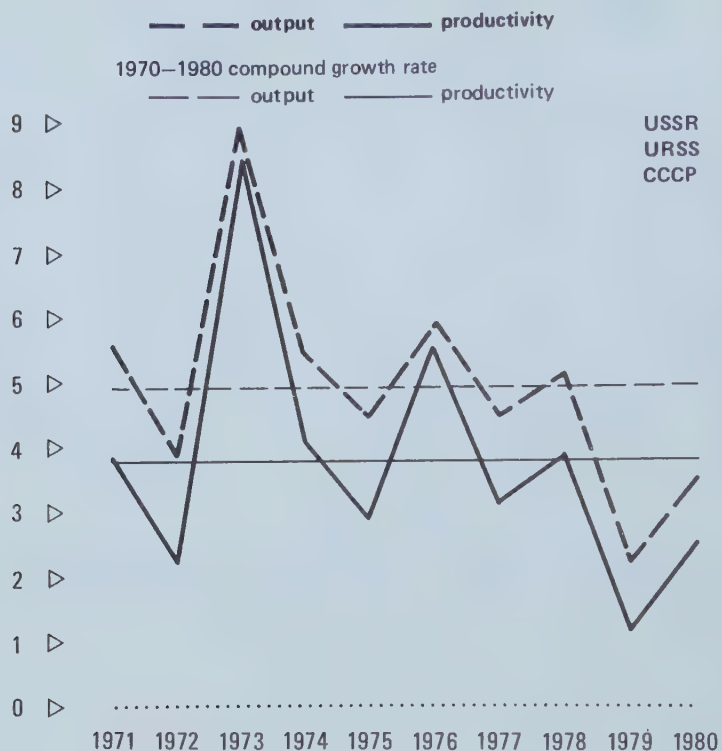
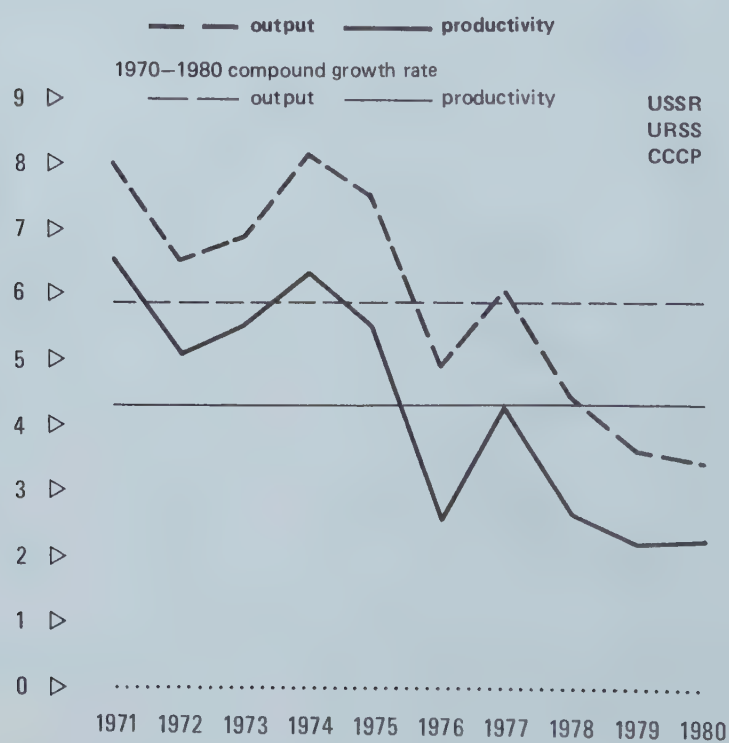


CHART 3.6.1
ANNUAL PERCENTAGE CHANGES
IN OUTPUT (Q) AND PRODUCTIVITY (P)

A. MATERIAL SPHERE (Net output basis)



B. INDUSTRY (Gross output basis)



It is too early to estimate how far the high coefficients of variation in the later years of the decade were due to the "second oil shock" of 1979, in which case past growth relatives could be re-established. The fact that, deviations returned to a more "normal" level in 1980 may reflect no more than slow growth in virtually all main sectors and branches. Given that the changes took place before that year in several countries, it could be argued that the original change in world market conditions is now giving rise to a process of belated and perhaps more intensive adjustment than heretofore. If the reasoning presented earlier is correct, this could give some further boost to labour productivity during the 1980s, to the extent that a pattern of output more in line with the new international cost situation is established.

3.6(iv) Output growth and productivity

In this section, an examination of the relationship between output and labour productivity growth during the 1970s is presented. The deceleration of labour productivity growth has been associated with declining output growth rates over the 1970s (chart 3.6.1). Output changes have, however, been rather smaller than labour productivity changes in most countries, since employment has also continued to grow – the exceptions being Hungary and Poland in the material sphere, and also industry in Hungary.

The rationale underlying the productivity/output relationship itself consists of a number of elements. In the first instance the relationship depends partly on the general argument that high output growth rates encourage economies of scale and hence have a direct effect in stimulating also the growth of labour productivity. Another element is the response of employment to output changes; where for any reason employment responds slowly to output changes, there will again be a tendency for labour productivity and output growth to move closely in line with each other. This may of course happen, at the extreme case, where employment does not change at all, but it may also happen when employment continues to change but at rates substantially different from output.

In interpreting the relationship, it should be recalled that changes in output in the centrally planned economies are determined by the full complex of national priorities as expressed in the basic plan guidelines. These objectives are laid down in accordance with physical potential of the economy as perceived by the authorities, and are implemented by the mobilization of resources in a manner also laid down in the plan. Thus the main physical constraints on output growth are the availability of resources – whether of labour, capital equipment or material inputs, the efficiency of the resource distribution mechanism and the efficiency with which factors of production are used. Final output is therefore essentially supply-determined.

With regard to the centrally planned economies, the *Economic Survey of Europe in 1981* notes that "though (labour productivity) is a determinant of NMP growth rates in the long or even the medium term, labour productivity may, on the contrary, be the dependent variable in the short term if the effects of other factors involved are strong enough to cut down NMP growth rates".²⁷²

Shortages of any factor of production will constrain growth to the extent that they cannot be compensated by factor substitution, or by greater efficiency in their use.

In the cases of capital and material inputs, shortages acting as an exogenous limitation on output growth will feed back directly to labour productivity growth, partly by limiting opportunities for exploiting economies of scale. The situation is different if the main constraint on output is labour shortage. Any limitation on output from this source may reduce gains from economies of scale. But this apart, deceleration of output growth because of labour shortage need not in itself have an effect on labour productivity – indeed, enterprise efforts to intensify the use of labour might bring about some speed-up of labour productivity growth relative to output changes.

Additionally, changes in productivity growth will be determined by the rate at which employment levels (and also the employment structure where the effects of such factor shortages impinge unevenly on the economy) can readjust to a new situation. Aggregate employment levels may not, in the short-term at least, fluctuate substantially in response to output changes. This fact alone implies the likelihood of a close relationship between changes in aggregate output and labour productivity. Moreover, the same is likely to be true at sector and branch levels; since there is no automatic, direct linkage between output changes (and related effects on enterprise profitability) on the one hand, and on the level of enterprise employment on the other, employment may not respond rapidly to pressures tending to change the structure of output. Hence changes in labour productivity in individual sectors/branches induced by falling output growth rates may be uneven until changes are made within the framework of national readjustment policies, financial shortfalls experienced by enterprises being covered in the interim by the central redistributive mechanisms.

The following sub-section briefly summarizes the deceleration of output growth in the centrally planned economies during the 1970s, and its relationship to the supply of labour, capital and material inputs. In sub-section (b), the relationship between output and labour productivity changes over the decade is empirically tested. In sub-section (c), the relationship is interpreted in the light of the responsiveness of employment to output changes in the centrally planned economies. In sub-section (d), the 1981–1985 five-year plan targets' implications for labour productivity and employment are examined in the light of these findings.

(a) The deceleration of output growth

As already noted in section (i) above, the rate of employment growth in the material sphere declined in some but not all countries between 1971–1975 and 1976–1980, ranging in the latter period between an average annual change of -0.6 per cent annually in Hungary and Poland to 1 per cent annually in the Soviet Union (table 3.6.3). However, growth in the non-material sphere was considerably higher than in the material sphere in the second half of the decade – some 1.6–2.2 per cent annually.

In the material sphere of the economy, and despite a slowdown in the rate of growth of investment, fixed assets continued to rise strongly in all countries and in several – reflecting the slowdown in employment growth – capital intensity per worker actually rose faster in 1976–1980 than in 1971–1975. Though some qualitative declines in the capital stock may have taken place there is no evidence that in quantitative terms shortage of capital equipment has been an element in the decline in output growth rates.²⁷³ On the contrary, the high rates of

²⁷³ For a more detailed discussion of changes in investment and fixed assets, see section (v)–(a) below.

²⁷² *Op. cit.*, pp. 167–168.

TABLE 3.6.7
Material intensity of net output in the material sphere and industry
(Percentage change over five-year periods)

	Industry		Material sphere	
	1971-1975	1976-1980	1971-1975	1976-1980
Bulgaria	-0.9	-5.3	-0.5	-1.8
Czechoslovakia	-1.5	1.0 ^a	0.3	1.0 ^a
German Democratic Republic	0.6	-1.2	5.0	1.7
Hungary	-6.9	-2.7	-0.4	4.6
Poland	0.2	15.8	..	..
Romania	-7.9	-3.1	-2.3	-2.0
Soviet Union	-2.7	-13.4	0.5	-0.4

Sources: National statistical publications and ECE Secretariat estimates.

^a 1977-1980.

growth of capital intensity recorded should have gone some way to offset the effects of slower employment growth in most countries of the region.

In contrast, there have been some changes in the availability of material inputs relative to total output growth over the decade. They have been accompanied in most countries by changes in the material intensity of production (expressed as material inputs per unit of net output) – both in the material sphere and in industry as a whole. The figures presented in table 3.6.7 show that in all countries but Czechoslovakia and Poland, the material intensity of production has either fallen in absolute terms during 1976-1980, or grown less rapidly than in the 1971-1975 period. This took place in line with the increasing stress on economies of inputs which was a feature of major policy announcements over the decade.

Reductions in the material intensity of output can come about in two ways: either by across-the-board improvements in the efficiency of input use, or by closing down the most material intensive production lines. In the former case, any shortfalls in the supply of inputs should be at least partially compensated. In the latter case any such shortfalls might similarly be compensated, to the extent that resources are immediately diverted to less material intensive sectors. The lack of precise information at sector and branch level hinders any more detailed examination of how changes in the real material costs of output came about. However, it is possible to review changes in the supply of material inputs from another standpoint: changes in the relationship between output growth in the main raw material and intermediate goods supply industries, and also the growth of imports of fuel, raw materials and certain intermediate goods, on the one hand, and the growth rates of total output on the other.

A scrutiny of output growth rates in the main material supply industries (energy, fuel, metallurgy and chemicals) shows that, in 1976-1980, for the seven centrally planned countries a deceleration relative to total industrial output growth occurred in chemicals in five out of seven cases as compared with 1971-1975. In metallurgy, the same was true in all cases, and for the fuel industry in three out of six cases while in a further three cases the growth in the output of fuel fell to the same degree as industrial output as a whole (the German Democratic Republic does not show fuel industry output separately from the combined energy and fuels branch). For the energy industry, growth on the other hand was faster in 1976-1980 than for total industrial output relative to 1971-1975 in the six countries for which data are available (table 3.6.8). A similar pattern emerges in the case of imports of fuel, raw materials and also for technology-based intermediate goods imported from the OECD area in relation to NMP growth (table 3.6.9).

Additionally, fluctuations and slow growth in agricultural output affected NMP and labour productivity including the effects on industries for which agriculture is a main source of material inputs.

Thus there is evidence of a tightening in the material supply situation in almost all countries of the area in the second as compared with the first half of the 1970s. While it cannot be conclusively demonstrated, the data suggest a strong likelihood that the growth slowdown in 1976-1980 was partly attributable to this factor – particularly in those countries where the material intensity of production declined only slowly or continued to increase.

(b) The productivity/output relationship

In order to test the relationship between output and productivity growth over the 1970s, a series of cross-sectional regressions were run for each country over the identified sectors and industrial branches shown in table 3.6.1, the observations being weighted according to the share of each sector or branch in the corresponding output aggregate (table 3.6.10).

Within the material production sphere, the results suggest that, on average, a one per cent change in production was associated with labour productivity increases of 0.3 – 1.1 per cent in the centrally planned economies; Romania and Bulgaria (0.3 and 0.6 respectively) appear at the lower end of that range, with Czechoslovakia, the German Democratic Republic and Hungary at the upper end (0.82 – 1.07). The coefficients on output are significant at the 1 per cent level for all countries but Romania. For industry, the picture is similar. Production growth is apparently strongly associated with labour productivity changes in Czechoslovakia, the German Democratic Republic and Hungary (coefficients of 0.83 – 0.90), and also in Bulgaria, Poland and the Soviet Union (coefficients of 0.57 – 0.64), but much less so in Romania. All regression coefficients are significant at the 1 per cent level.²⁷⁴

²⁷⁴ Regressions were also run on a time series basis to provide a further check on the cross-sectional results as well as an insight into individual sector and branch behaviour. The time series equations did in fact confirm the generally close association of labour productivity with output growth (regression coefficients of 0.6-1.0) in the material sphere, and the low or negative (when significant) value of the intercept term. In Hungary and Poland, the regression coefficients were somewhat lower (about 0.5). With regard to individual sectors, the regression coefficient were high for industry, construction and agriculture, though transport and communications generally had a somewhat lower coefficient (as did industry in Hungary and Poland). There was more inter-country variation at the level of gross industrial production, though in most countries the fuel, energy, metallurgical engineering and chemical industries showed regression coefficients of 0.9-1. The coefficients were, with some exceptions, lowest in the consumer related branches (wood and paper, textiles, other light industry and food).

TABLE 3.6.8

Elasticities of the volume output growth in main material input supply branches relative to total industrial output growth in 1971–1975 and 1976–1980

	Bulgaria		Czechoslovakia		German Dem. Rep.		Hungary		Poland		Romania		Soviet Union	
	1971–75	1976–80	1971–75	1976–80	1971–75	1976–80	1971–75	1976–80	1971–75	1976–80	1971–75	1976–80	1971–75	1976–80
Energy	0.59	1.32	0.92	1.04			1.19	1.74	0.88	1.23	0.79	0.50	0.96	1.11
Fuel	0.93	0.90	0.49	0.57	0.43	0.96	0.31	0.15	0.58	0.57	0.42	0.41	0.80	0.67
Metallurgy	1.21	0.93	0.82	0.61	1.08	0.80	0.78	0.47	0.96	0.75	0.89	0.82	0.69	0.42
Chemicals	1.29	1.59	1.52	1.26	1.32	0.96	1.64	1.88	1.17	0.98	1.29	1.02	1.42	1.27

Sources: National statistical publications and ECE Secretariat estimates.

TABLE 3.6.9

Elasticities of the volume of growth of broad imported material input categories relative to NMP growth^a

	Fuel		Raw materials		OECD exports of technology based intermediate goods ^b	
	1971–75	1976–80	1971–75	1976–80	1971	1976–80
Bulgaria	0.71	0.71	0.72	0.34	0.69	0.95
Czechoslovakia	1.02	0.94	0.61	0.28	1.43	0.39
German Democratic Republic	1.15	0.07	1.08	0.68	2.19	0.81
Hungary	1.79	1.69	0.86	1.69	1.85	1.83
Poland	1.41	0.63	1.57	–3.00 ^c	3.09	–3.21 ^c
Romania	0.88	3.74	0.49	0.54	0.74	0.55
Soviet Union	2.88	–1.86 ^c	1.25	1.14	8.05	–1.69 ^c

Sources: National statistical publications and ECE Secretariat estimates (panels 1 and 2); OECD East-West data base (panel 3).

^a Ratio of percentage changes in growth of imported inputs to percentage changes in NMP.^b Based on SITC BEC (broad economic categories) intermediate goods, from which were selected those originating in high R&D-intensive industrial branches.^c Negative sign due to fall in level of imports.

TABLE 3.6.10

Relationships of net material product and gross industrial production with labour productivity growth 1971–1980

(Based on cross section)^a

Material sphere	1971–1980 ^b			Difference 1976–1980 and 1971–1975 ^c		
	a	b	R ²	a	b	R ²
Bulgaria	3.226 (2.030)	0.589 (10.869)	0.967 (0.567)	17.848 (3.457)	1.083	0.732
Czechoslovakia	–0.045 (–0.027)	0.823 (8.241)	0.944 (0.312)	2.694 (8.703)	0.976	0.949
German Democratic Republic	0.730 (1.320)	0.879 (30.670)	0.996 (–0.471)	–4.836 (3.377)	1.156	0.722
Hungary	0.302 (0.102)	1.062 (5.518)	0.880 (0.696)	–22.735 (1.166)	0.454	0.082
Poland	0.835 (0.617)	0.643 (9.425)	0.956 (–2.238)	–11.344 (25.466)	0.621	0.994
Romania	8.571 (1.367)	0.311 (2.168)	0.481 (–2.078)	–32.213 (1.664)	0.212	0.306
Soviet Union	–0.135 (–0.083)	0.702 (9.275)	0.966 (1.827)	11.264 (13.065)	1.074	0.983
Industry						
Bulgaria	1.392 (1.237)	0.573 (7.559)	0.862 (–0.031)	–0.201 (3.587)	0.492	0.569
Czechoslovakia	0.163 (0.622)	0.827 (30.874)	0.991 (0.041)	0.153 (6.683)	0.989	0.829
German Democratic Republic	0.502 (0.575)	0.843 (12.613)	0.958 (–0.157)	–0.892 (6.262)	1.289	0.845
Hungary	0.889 (1.098)	0.900 (9.761)	0.922 (0.872)	5.574 (5.229)	0.691	0.767
Poland	1.212 (3.778)	0.589 (27.023)	0.988 (–0.544)	–3.780 (5.041)	0.435	0.731
Romania	2.512 (4.294)	0.263 (11.900)	0.940 (–0.305)	–3.019 (0.738)	0.015	–0.12
Soviet Union	0.712 (3.096)	0.641 (29.795)	0.990 (–1.015)	–5.427 (6.239)	0.779	0.826

Sources: National statistical publications and ECE Secretariat estimates.

Note: Figures on the left-hand side show the relationship over the whole of the 1971–1980, weighted by the share of sectors/branches in the corresponding output aggregate. Figures on the right-hand side show the influence of the changes in output growth rates on the corresponding change in labour productivity in 1976–1980 as compared with 1971–1975, weighted according to 1971–1980 sector/branch shares in the corresponding output aggregate.

^a Cross section is based on the identified 4 or 5 sectors and 8–10 branches shown in table 3.6.1.^b $P = a + bQ$ (at 1970 production weights) where P and Q = the percentage change in labour productivity and output respectively over 1971–1980.^c $P_{1976-1980} - P_{1971-1975} = a + b(Q_{1976-1980} - Q_{1971-1975})$ (at average production weights 1970–1980).

TABLE 3.6.11

Relationships of employment in the material sphere and in industry with NMP and gross industrial output growth, 1971–1980
(Based on cross section)^a

	Material sphere			Industry		
	a	b	R ²	a	b	R ²
Bulgaria	-3.176 (-2.103)	0.247 (4.788)	0.846 (4.714)	-0.449 (4.714)	0.187	0.702
Czechoslovakia	-0.023 (-0.019)	0.120 (1.654)	0.302 (0.099)	0.018 (4.770)	0.087	0.707
German Dem. Rep.	-0.508 (-1.189)	0.076 (3.448)	0.731 (-0.176)	-0.112 (1.750)	0.085	0.228
Hungary	-0.241 (-0.119)	-0.028 (-0.215)	-0.313 (-0.994)	-0.573 (1.061)	0.070	0.015
Poland	-0.794 (-0.609)	0.233 (3.538)	0.742 (-1.813)	-0.395 (13.445)	0.199	0.952
Romania	-4.174 (-1.338)	0.388 (5.428)	0.877 (-2.486)	-0.893 (28.141)	0.382	0.989
Soviet Union	0.483 (0.422)	0.178 (3.320)	0.770 (-1.617)	-0.220 (13.822)	0.176	0.955

Sources: National statistical publications and ECE Secretariat estimates.

^a Cross section is based on the identified 4 or 5 sectors and 8–10 branches shown in table 3.6.1. The regression equation is of the form $\dot{E} = a + b\dot{Q}$, where $\dot{E}$ and $\dot{Q}$ are percentage changes in employment and output respectively and is weighted according to output structures.

Cross-sectional regressions were also run separately for 1971–1975 and 1976–1980. The coefficient on output strengthened in Bulgaria and Romania within the material sphere as a whole between the first and second halves of the decade and especially in Hungary. It fell slightly in Czechoslovakia and in the Soviet Union but in the remaining countries it remained virtually constant. In industry, the coefficient rose in Bulgaria, Hungary, Poland, Romania and the Soviet Union, and fell marginally in Czechoslovakia and the German Democratic Republic.

In order to test the significance of these changes, the observations for the two sub-periods were pooled. Dummy variables on the intercept and output coefficients were introduced and the regressions were re-run.²⁷⁵ The regressions were also re-run with the intercept dummy alone and with the output dummy alone. The fit of the equations marginally improved in some cases but in most neither dummy coefficients was significant. In Poland and Romania, the output dummy was, however, significant for industry, suggesting that the relationship between output growth and labour productivity strengthened significantly in those two countries. Overall, the results indicate that the relationships shown in table 3.6.10 persisted over the whole decade, and that the relatively weak relationship in Romanian industry strengthened in 1976–1980.

In order to quantify more precisely the effects of the relationship between 1971–1975 and 1976–1980, an equation was run using the change in the relative growth rates of productivity and output between the two periods to illustrate directly the cost, in terms of labour productivity foregone, of the deceleration of NMP and total (gross) industrial output growth. The results are shown on the right-hand side of table 3.6.10.

With regard to the material sphere, significant results were obtained for five countries (excluding Hungary and Romania). The results indicate that for each percentage point decline in output growth between the early and late 1970s, productivity growth fell by some 1 per cent in Bulgaria, Czechoslovakia, the German Democratic Republic and the Soviet Union – and by 0.6 per cent in Poland.

For industry, significant results at the 1 per cent level were obtained for all countries but Romania (where the result was not significant at all). They indicate that for every 1 percentage point reduction in output growth rates between 1971–1975 and 1976–1980, labour productivity declined by 0.4 per cent in Poland, by 0.5 and 0.7 per cent in Bulgaria and Hungary respectively, and by about 0.8–1.2 per cent in Czechoslovakia, the German Democratic Republic and the Soviet Union. All six of these coefficients were significant at the 1 per cent level.

(c) Output and employment changes

The generally high regression coefficients of output changes in relation to labour productivity changes (except in Romania) found in the previous sub-section may in part reflect the slow adjustment of employment to structural changes in output, or the fact that, in economies committed to a full employment objective, changes in output growth rates over time are not accompanied by changes in the growth of total employment. In order to test this hypothesis employment was regressed against output on a cross-sectional basis for the material sphere and industry for each country under review. If the hypothesis is valid, then the close association between labour productivity and output changes should be accompanied by a weak association between employment and output changes.

The results of the exercise are summarized in table 3.6.11. They show that, in most countries, no relationship was found between changes in employment and changes in output throughout the decade. The regression coefficients were insignificant in Czechoslovakia and Hungary (material sphere) and in the German Democratic Republic and Hungary (industry) and in the same instances the R² was also very low. Elsewhere, a 1 per cent rise in output was associated with employment changes typically of zero to 0.2 per cent over the decade in both the material sphere and in industry – except in Romania where the corresponding change in employment was about 0.4 per cent. The results between countries are of course a mirror image of the productivity/output regressions; labour productivity changes are most closely associated with output changes in Hungary – the country where employment is least responsive to output changes – followed in order, in both the material

²⁷⁵ $P = a + b\dot{Q} + cD + dD_1$ with D and $D_1 = 0$ during 1971–1975 and D and $D_1 = 1$ in 1976–1980.

TABLE 3.6.12

Labour productivity and employment growth
(Average annual compound percentage change)

	Labour productivity		Employment	
	Estimated 1981-1985	Actual 1976-1980	Implied 1981-1985	Actual 1976-1980
A. NMP				
Bulgaria	4.2	6.1	-0.5	—
Czechoslovakia	2.1	3.2	0.2	0.4
German Democratic Republic	4.6	3.6	-0.5	0.4
Hungary	3.4-4.2	3.5	(-0.7)-(-1.9)	-1.1
Poland	..	1.7	..	..
Romania	3.4	6.9	3.5	0.2
Soviet Union	2.7	3.2	0.7	1.0
B. Industry				
Bulgaria	4.3	4.9	0.8	1.3
Czechoslovakia	2.7	3.9	0.4	0.6
German Democratic Republic	4.6	4.4	0.5	0.5
Hungary	4.9	4.5	-1.1	0.3
Poland	..	4.2	..	0.2
Romania	4.8	5.8	2.7	3.5
Soviet Union	3.0	2.8	1.7	1.6

Sources: National statistical publications and ECE Secretariat estimates.
Note: See note to table 3.6.1.

sphere and industry, by the German Democratic Republic, Czechoslovakia, the Soviet Union, Poland, Bulgaria and Romania. Ranked from the weakest to the strongest association of employment and output changes, the countries follow virtually the identical order in both the material sphere and in industry.²⁷⁶

This type of economic behaviour in conditions of decelerating output growth can bring about a labour productivity growth slowdown in the short term. However, when output expands it may quickly feedback into labour productivity gains. This tends to put in a new light the labour shortage problem often discussed in the Soviet and east European press: if employment is not responsive to output changes, then neither does output necessarily respond to employment changes. In other words, an upturn in output could be achieved rather quickly with existing employment levels, over the short term at least, given the removal of the supply constraints discussed above. Such an upturn would also bring about a swift rise in labour productivity.

(d) Labour productivity and the five-year plans 1981-1985

The results presented in sub-section (b) above confirm for the centrally planned economies the close association of labour productivity changes and changes in output in both halves of the decade. This is of particular relevance in the framework of national plans to raise the efficiency of economic development during 1981-1985 while at the same time accepting noticeably lower aggregate growth targets as part of the process of structural adjustment in industry and in the economy as a whole. It will be recalled from an earlier section that targets for output (NMP) were set higher than in 1976-1980 only in the German Democratic Republic, and were substantially lower in Bulgaria, Czechoslovakia and the Soviet Union. For industrial gross output, plan targets were higher than for 1976-1980 in the German Democratic Republic, Hungary and the Soviet Union though only marginally so.

Given the close association of output and labour productivity growth described above, and given NMP growth rates in the 1981-1985 five-year plans – lower than those recorded in 1976-1980 – no major acceleration of labour productivity growth can be expected in the centrally planned economies of the region over 1981-1985. Five-year plans, in fact, contain few targets for labour productivity growth; an exception is Bulgaria, where employment and NMP objectives suggest a labour productivity deceleration during 1981-1985 from 6 per cent to 4.5 per cent annually and, in industry, a slight increase over the previously achieved 4.4 per cent per year. In Hungary a rise of 3.8 per cent (from 3.5 in 1976-1980) is foreseen for the material sphere (NMP per employee, based on the mid-point of the range of output forecast). Romania anticipates a rise in industrial productivity from 5.8 to 7 per cent annually,²⁷⁷ and a sharp increase is also expected in Soviet industry (from 2.8 to 4.2 per cent annually).

Table 3.6.12 shows the extent of productivity changes arising from output changes in 1976-1980 on the basis of the output/productivity relationships shown in table 3.6.10, and also the productivity effect for 1981-1985, assuming that the same relationship holds during 1981-1985, on the basis of published output targets. The implied employment, rise if output targets were to be achieved, is shown in the third column of the table, while the last column shows, for reference, the actual rise in employment during 1976-1980. The table also shows the implications for labour productivity and employment in 1981-1985 if output objectives were to be achieved as planned.

Almost all countries' output targets appear to leave room for a further slowdown in material sphere employment growth rates. For Romania, the NMP targets could imply either that a substantial acceleration in the growth of employment in the material sphere is

²⁷⁶ The only exception is industry where the ranking of Poland and Bulgaria are reversed in the case of responsiveness of employment to output changes.

²⁷⁷ However, it should be noted that for Romania, official industrial output and productivity indices are based on output weights relatively remote in time. For the purpose of the present exercise, branch output and hence productivity indices have been reweighted in terms of a more recent year (in the Romanian case 1977, which pulls down the derived aggregate output index over 1970-1980 by nearly 0.5 of a percentage point per year).

TABLE 3.6.13

Growth of gross capital formation and investment ratios, 1971–1975 and 1976–1980

	1971–1975		1976–1980		1981–1985 (Plan)	
	Investment ratio (Per cent NMP)	Investment growth (Per cent annually)	Investment ratio (Per cent NMP)	Investment growth (Per cent annually)	Investment ratio (Per cent NMP)	Investment growth (Per cent annually)
Bulgaria	36.6	6.7	36.6	4.1	32.3	0.9
Czechoslovakia	31.7	7.8	33.7	4.1	29.4	–1.7
German Dem. Rep.	30.1	3.8	31.0	5.3	25.4	–0.3
Hungary	35.3	5.6	37.4	4.4	33.5	0.5
Poland	34.3	17.1	35.9	–0.4	28.8 ^a	–22.7 ^a
Romania	37.9	10.7	40.5	9.8	38.4	4.4
Soviet Union	29.1	6.8	29.4	3.9	27.5	1.6

Sources: National statistical publications and ECE Secretariat estimates.
^a 1981 actual.

foreseen, or that large improvements in productivity will be achieved while the pace of output growth is decelerating – though it should be recalled that the output/productivity relationship was not significant. The table indicates some fall in labour productivity in the material sphere compared with 1971–1975 in all countries but the German Democratic Republic and possibly Hungary.

In industry, the corresponding figures show that the output plans of all seven countries take sufficiently into account the constraints on productivity growth and in all cases the employment growth implied by the plans is no higher, and in some cases substantially lower, than during 1976–1980 (on the assumption that the past relationship between output and productivity growth is maintained). Small labour productivity rises are indicated for the German Democratic Republic and the Soviet Union compared with performance in 1976–1980.

3.6(v) Investment and technology

The underlying sources of labour productivity changes are principally changes in the trend of investment – both quantitative, as they affect the total supply of fixed assets, hence permitting the substitution of labour by capital; and qualitative – improvements in the level of technology and the rapid adoption of the newest technology; changes in the share of the most up-to-date equipment in the total capital stock; and, finally, the concentration of investment allocations on sectors and branches where labour productivity levels are highest. The principal developments in each of these are discussed in sub-sections (a) and (b) below, which are followed by a summary of policies towards, and magnitudes of, imports of technology investment goods from outside the area (sub-section (c)).

(a) Investment and capital intensity

During the 1970s there has been a marked evolution in the role of investment in growth strategy. In successive five-year plans, the authorities have increasingly stressed policies to improve the efficiency of the investment process itself (shortening of lead times, concentration of resources on priority projects), and also, at the end-user level, to improve the efficiency with which capital equipment is used (see section 3.4 above).

A feature of the late 1970s – and of the early 1980s to an even more marked degree – has been a planned and progressive slowdown in investment growth in all countries but the German Democratic Republic, though

because of decelerating output growth the share of gross fixed investment in NMP (the investment ratio) rose during 1976–1980 in all countries over the average of 1971–1975 (see table 3.6.13). However, most of the rise was due to the relatively fast expansion up to about 1976–1977, the subsequent fall producing declines in the gross investment ratios in the final years of the decade.

The slowdown in employment growth and – as will be discussed later – a policy of slower capital equipment write-offs in most countries had the effect of maintaining the growth of capital intensity per employee at rates not noticeably lower than in 1971–1975. Indeed the rates accelerated for the material sphere in Czechoslovakia, Hungary and Poland – in the latter two countries reflecting largely declines in the absolute level of employment, especially in industry, between 1971–1980 (table 3.6.14). The rates of growth of capital intensity in the industrial sector also accelerated in the above three countries and in Romania; but it decelerated in the Soviet Union where the growth of industrial employment has been particularly buoyant, and remained the same in Bulgaria.²⁷⁸

Although the slowdown in the growth of employment helped to maintain capital intensity growth in quantitative terms, other factors had a qualitatively negative effect. There is some evidence that the constraints placed on investment growth were severe at the enterprise level. The rise in the investment ratio at a time of slower overall economic growth already reflects pressures to invest at a higher rate despite the overall economic constraints. There is also strong evidence that the quality of the capital stock, as shown in its age structure in particular, has been adversely affected by the aggregate investment slowdown. This has happened in two ways – first, by the apparent decline in write-off rates of fixed assets, and second by a fall in the share of new fixed assets in the total capital stock.

To investigate the first element in the absence of specific figures on capital write-offs, a crude comparison of the difference between annual investment and annual increases in the capital stock was made, the difference between the two – an implicit write-off rate – being expressed as a percentage share of fixed assets in each respective year.²⁷⁹ As shown in table 3.6.15, write-off

²⁷⁸ In all countries apart from Romania, the growth of capital intensity in the material sphere has been typically 2 to 5 or 6 times higher than in the services sector – partly because fixed assets have grown more slowly in the latter, and partly because of higher than average growth rates of service sector employment.

²⁷⁹ However, it should be recalled that fixed assets are shown in all countries reviewed at their undepreciated value (whether in constant prices or – as in Bulgaria and Romania – at historic cost).

TABLE 3.6.14

Capital intensity per employee
(Annual average compound percentage change)

	1971-1975	1976-1980
<i>Bulgaria</i>		
Industry	6.6	6.6
Material sphere	8.7	7.9
Non-material sphere	1.3	4.7
<i>Czechoslovakia</i>		
Industry	5.0	5.6
Material sphere	5.4	5.7
Non-material sphere	3.5	2.6
<i>German Democratic Republic</i>		
Industry	5.9	5.4
Material sphere	5.8	5.2
Non-material sphere	-0.3	0.3
<i>Hungary</i>		
Industry	7.9	8.7
Material sphere	6.9	7.0
Non-material sphere	1.1	2.9
<i>Poland</i>		
Industry	6.4	8.7
Material sphere	6.2	8.7
Non-material sphere	-0.7	1.9
<i>Romania</i>		
Industry	6.3	6.7
Material sphere	11.6	10.0
Non-material sphere	2.1	4.4
<i>Soviet Union</i>		
Industry	7.0	5.7
Material sphere	7.3	6.3
Non-material sphere	3.1	3.2

Sources: National statistical publications and ECE Secretariat estimates.

TABLE 3.6.15

Apparent depreciation rates, 1971, 1975 and 1980
(Per cent)

	1971	1975	1980
<i>Material sphere</i>			
Bulgaria	4.2	3.9	2.6
Czechoslovakia ^a	1.3	1.3	1.6
German Democratic Republic	3.8	3.5	2.9
Hungary	2.5	1.7	1.8
Poland	3.5	3.6	1.6
Romania	1.7	(-3.8)	3.2
Soviet Union	3.3	2.6	2.1
<i>Industry</i>			
Bulgaria	7.3	4.1	1.9
Czechoslovakia ^a	1.3	0.9	1.4
German Democratic Republic	4.0	2.8	3.4
Hungary	3.0	0.5	1.9
Poland	3.4	6.5	2.4
Romania	0.9	(-1.6)	2.9
Soviet Union	2.5	2.3	1.9

Sources: National statistical publications and ECE Secretariat estimates.

^a Official write-off rates for Czechoslovakia confirm a rise over the decade, indicating rates of 3.1 per cent, 3.4 per cent and 3.5 per cent in 1970, 1975 and 1980.

rates so derived fell over the decade in all countries but Czechoslovakia and Romania (in the first case since 1975 only, reversing the trends between 1970 and 1975) and particularly since 1975. Though there is some fluctuation in the year-to-year movements, which are not shown here, it is not such as to invalidate the trends shown between benchmark years.

It thus seems likely that, in a period of increasingly scarce investment resources, the response of enterprises in most countries has been to keep older machinery and equipment in service to compensate for the more restricted possibilities for capital renewal. Only in the energy and fuels and, to a much smaller extent, in engineering and chemical branches (where write-off rates have, moreover, been rather higher than in industry as a whole), has the write-off rate been maintained or increased but even then not in all countries.

These results are not inconsistent with the results of a further exercise to examine the share of new equipment in total capital stocks. The method used was to sum capital investment on a sliding basis over successive five-year periods, and to express that sum as a share of capital stocks in the final year of the period (the implicit assumption being that no fixed assets under five-years old are written off). The results, shown in table 3.6.16, indicate a fall in the share of fixed assets under five years old in most countries of the area.

Reflecting the apparently more active policy towards write-offs of capital equipment, Czechoslovakia seems to have brought about some increase in the share of new fixed assets in its capital stock even though it is not at the head of the investment league in the area. Romania achieved a similar result, not only because of its apparently active write-off policy,²⁸⁰ but also because of the continuing rapid rates of investment growth; these were by far the highest in the region throughout the whole of the 1970s except for Poland in 1970-1975. In the latter country, it should be noted that the rapid build-up of the share of new fixed assets in the capital stock during the middle of the decade has fallen very rapidly - from a high point of 48.7 per cent in the material sphere achieved in 1977 to over 7 percentage points less by 1980, reflecting the rapid reduction and indeed absolute decline in investment between 1975 and 1980. In Hungary, the share of new fixed assets in the total remained virtually unchanged since 1975.

Only Czechoslovakia publishes data on the age structure of its capital assets. Citing this example is of interest, as in table 3.6.15 Czechoslovakia is one of the two countries where the write-off rate of capital assets had increased. Data in table 3.6.17, taken from the 1972 and 1976 fixed asset censuses, show the movements in the age structure of machinery and equipment fixed assets in the material sphere between the two years.

No exact comparison with the derived capital write-off rates in the time periods mentioned earlier is possible - and also the official age structure figures above exclude the value of fixed assets in buildings. The census figures show however that an increase in the share of assets of 1-5 years old was offset by a fall in those between 6-15 years old while the share of assets older than 15 years increased.

One of the problems to which policy makers in the centrally planned economies are devoting increasing attention is the continuing decline in capital and investment productivity indicators - whether expressed in terms of production per unit of fixed assets or in terms of gross incremental capital-output ratios (ICORS).²⁸¹ These have been charted in the *Economic Survey of Europe* in recent years and are repeated in table 3.6.18.

²⁸⁰ However, since fixed assets in Romania (and also in Bulgaria) are valued at historic costs rather than at constant prices, as is the case for other countries, they may be "undervalued" in respect of the investment figures (calculated at constant prices) to which they are related in the above table.

²⁸¹ The ratio of gross fixed capital formation to the rise in net material product.

TABLE 3.6.16

Share of fixed assets under five years old in the total capital stock
(Percentage share)

	Material sphere			Industry		
	1974 ^a	1975	1980	1974 ^a	1975	1980
Bulgaria	50.5	50.3	47.7	55.0	53.5	52.7
Czechoslovakia	30.9	31.4	32.4	29.5	29.7	31.0
German Democratic Republic	42.6	41.8	39.9	44.1	42.9	41.1
Hungary	36.7	36.4	36.2	43.0	41.7	42.0
Poland	41.6	45.3	41.4	50.0	54.8	46.7
Romania	50.2	49.0	51.0	42.1	42.3	45.8
Soviet Union	44.3	44.2	40.9	44.5	43.7	40.0

Sources: National statistical publications and ECE Secretariat estimates.

^a Figures on a comparable basis are lacking for some countries for the period 1966–1970, and no moving average was therefore calculated for the early 1970s.

TABLE 3.6.17

Czechoslovakia: Age structure of fixed assets in the material sphere
(Per cent of total fixed assets in the material sphere)

Age in years	1–5	6–10	11–15	14–25	26–50	over 50
end-1972	35.4	26.2	20.3	10.5	5.9	1.8
end-1976	40.3	21.0	15.9	14.7	6.3	1.8

Sources: *Statistická Rocenka CSSR 1974*, pp.210–211 and *Statistická Rocenka CSSR 1978*, pp.226–227.

TABLE 3.6.18

Capital productivity and incremental investment output ratios in the material sphere 1971–1975 and 1976–1980

	1971–1975		1976–1980	
	Capital productivity ^a	ICORs ^b	Capital productivity ^a	ICORs ^b
Bulgaria	–1.0	3.6	–1.8	4.3
Czechoslovakia	–0.1	3.5	–2.4	5.8
German Democratic Republic	–0.5	4.6	–1.5	5.8
Hungary	–0.5	4.8	–3.2	8.4
Poland	1.1	3.0	–5.9	8.3
Romania	–0.5	2.7	–2.8	4.0
Soviet Union	–2.8	3.6	–2.9	4.6

Sources: National statistical publications and ECE Secretariat estimates.

^a Average annual percentage change.

^b Ratio of gross fixed capital formation in the material sphere to the rise in NMP.

There is no single reason for the downward movement of the capital productivity growth indicators presented above. To the extent that production has been held back by the slower growth of material input availabilities discussed earlier, some deceleration in the trend of capital productivity might be expected. The planned slowdown in investment growth rates, targeted in most countries for 1976–1980 was not fully achieved in several.²⁸² Taking into account also the apparent fall in write-off rates, which has left an increasing share of older equipment in commission, there is thus evidence of some imbalance in resource allocation between capital and current material inputs. Thus the decline in capital productivity suggests not simply a decline of efficiency in the use of capital, but the possibility of an increased degree of under-utilization of capital in the economy.

²⁸² Investment rose faster than planned in the German Democratic Republic, Hungary and the Soviet Union during 1976–1980. See *Economic Survey of Europe in 1981*, p. 239, table 3.4.1.

This had implications for the level of labour productivity associated with a given level of fixed assets during the decade. Table 3.6.19 relates the indices of labour productivity and of the level of fixed assets over the period 1971–1980. It shows that, in the material sphere, the level of labour productivity associated with a given level of fixed assets was between 12 and 33 per cent less in 1980 than at the beginning of the decade, and between 8 and 43 per cent less in industry (based on gross output per man). Put differently, this means that the volume of fixed assets required to raise labour productivity by a given amount has increased at an extremely rapid rate – particularly in the final years of the decade. It is indeed noticeable that the downward movement was relatively small in most countries (except Romania and the Soviet Union) between 1970 and 1975 – and in Czechoslovak industry the index even moved upward; but the decline of the index greatly intensified between 1975 and 1980 in most countries.

(b) Domestic science and technology

The above finding is, perhaps, rather surprising in the light of the few figures available to evaluate the R&D technology efforts of the centrally planned economies. Total expenditures on R&D range between some 2 and 5 per cent of NMP in 1979 – with the lowest in Romania and Poland and the highest in the Soviet Union. Of the four countries for which earlier figures (for 1975) are shown, R&D expenditures declined in Poland, but elsewhere grew faster than NMP. The number of R&D personnel, which ranged between 2 and 3 per cent of total employment in 1979, grew in all countries twice as fast as total employment over the decade – and three times as fast in the Soviet Union. This was so even in Poland where the number of R&D personnel dropped very substantially in 1978 and 1979. Rising trends are also discernible for total education expenditures, since 1970. These accounted for a share of 4.7 to 7.5 of NMP in 1977 depending on the country, but excluding Poland where

TABLE 3.6.19
Relationships between fixed assets and labour productivity levels^a

(Indices, 1970 = 100)

	1975		1980	
	Material sphere	Industry	Material sphere	Industry
Bulgaria	94.3	89.1	86.1	78.3
Czechoslovakia	98.1	102.0	85.3	92.2
German Dem. Rep.	97.1	95.7 ^b	88.1	89.5 ^b
Hungary	98.4	90.9 ^b	86.1	78.9 ^b
Poland	97.5	88.0	71.5	68.2
Romania	96.4	73.6 ^b	82.9	57.0 ^b
Soviet Union	81.3	87.9	66.7	70.5

Sources: National statistical publications and ECE Secretariat estimates.

^a Index of labour productivity divided by the index of capital stocks.

^b Calculated on a national accounting basis (net output).

TABLE 3.6.20
Identified investment goods trade between the centrally planned economies
(Value, billions of current US dollars)

	Exports			Imports		
	1970	1975	1980	1970	1975	1980
Bulgaria	0.83 ^a	1.26	2.08	0.93 ^a	1.14	1.94
Czechoslovakia	1.25	2.44	4.52	0.55	1.53	2.55
German Democratic Republic	1.50	3.30	5.92	0.60	1.75	2.42
Hungary	0.42 ^b	1.20	2.42	0.29 ^b	0.75	1.29
Poland	0.62	2.06	4.28	0.65	1.74	3.28
Romania	0.28	0.60	1.02	0.28	0.53	1.09
Soviet Union	0.98	2.83	5.21	2.75	6.51	12.43
Total	5.50 ^c	13.69	25.45	5.60 ^c	13.95	25.00

Sources: National statistical publications and ECE Secretariat estimates.

Note: Since trade statistics for most CMEA countries are incomplete, the table almost certainly understates the true value of flows; some part will be included in the unexplained residual between total flows (not shown here) and the sum of flows identified by country (shown above).

^a 1973.

^b 1971.

^c Totals for 1970 and estimated.

the share fell from 3.8 to 3.4 per cent between 1970 and 1977.²⁸³

Given a research effort rising faster than aggregate economic growth, the centrally planned economies seem to be experiencing some difficulties in incorporating new technologies into economic activity.²⁸⁴ This problem, though clearly perceived, is complex and has been addressed in a variety of ways. Changes in the organization of R&D activity were introduced to encourage the faster adoption of new technology into the production process – notably in the German Democratic Republic, where research establishments have been linked more closely with end-users by concentrating them administratively within the new *Kombinate*. Several countries have introduced changes in the overall economic planning mechanism – notably the transfer to net rather than gross output as a main performance indicator, with the aim of providing financial rewards for rationalization, economies in the use of materials and better quality of output through the adoption of new technology (see section (vi) below).

Following some initial activity in the 1960s, the early 1970s also saw a number of initiatives at the international level – specialization agreements within the CMEA

area in the supply of investment goods, and, for a time, the intensive promotion of east-west industrial co-operation. These are discussed in the following subsection.

(c) Investment goods imports

It is not possible to analyze the effect of either expanded intra-regional or east-west technology flows on labour productivity performance with precision, but some general observations can be made.

A first initiative in intra-regional technological co-operation was the signing at the beginning of the 1970s of long-term agreements on production specialization (including investment goods) within the CMEA framework. This has had some noticeable effects on the pattern of intra-CMEA investment goods exchanges. The second was the decision made at the beginning of the decade by the individual centrally planned economies to increase the import of investment goods and also licences and know-how from the developed market economies.

In the first case, the 1970s have seen fast growth in the volume of intra-regional investment goods exchanges, and some indications of growing specialization by participating countries. As shown in table 3.6.20, the size of investment goods trade between the countries of the area rose very fast over the whole of the decade. Particularly large increases in exports were registered by Poland and the Soviet Union. While the German

²⁸³ Data taken from UNESCO yearbooks and national statistics.

²⁸⁴ See article by Academician V. Trapeznikov, *Pravda*, May 7, 1982, where it is argued that the main reason for the slowdown in labour productivity growth is the tendency to undervalue the potential effects of science and technology and management improvements.

Democratic Republic remains the biggest CMEA supplier of investment goods to the other countries of the region, by 1980 it was closely followed by the Soviet Union (third biggest supplier in 1970) and by Czechoslovakia and Poland (fifth biggest supplier in 1970).

With regard to east-west exchanges of investment goods, the first years of the decade saw a rapid expansion of centrally planned economies' purchases which continued up until about the middle of the decade in both value and volume terms. However, there has been a sharp decline in the share of investment goods purchased from outside the CMEA area in the total of such imports (from 41 per cent in 1975 to 30 per cent in 1980 in terms of current dollars) though it is still somewhat bigger than in 1970 (about 28 per cent).²⁸⁵

The post-1970 upsurge was thus followed by a sharp deceleration in the trend of growth in the value of investment goods imports from the developed market economies after 1975 (table 3.6.21), and, apparently, by absolute declines in their volume (table 3.6.22). Clearly, the competing demands on export earnings – the rise of which was hampered by the slow growth of export opportunities in the developed market economies – made by importing sectors, notably agriculture, and the steep rise in the indebtedness of the centrally planned economies have exerted powerful constraints on the growth of trade in general. The sharp deceleration in imports of investment goods has been much more marked than that of overall imports of goods from the developed market economies. The slowdown in the level of such purchases suggest a considerable downgrading in the priority accorded to this class of imports (see table 3.6.21 below). The size of the adjustment may indicate that the impact of imported technology on domestic productivity and output levels was smaller than originally expected.

Precise quantification of the impact of purchases of OECD technology is not possible. But even allowing for time lags between purchase and commissioning of plant the dynamic expansion of purchases was not accompanied by any significant improvements in labour productivity in aggregate or in the sectors and branches which were the biggest users of OECD technology, with the exception of transport and perhaps chemicals. The upsurge in pipeline imports from the OECD

countries clearly played a role in expanding the Soviet Union's gas and oil export capacity.

While it would appear that large-scale injections of foreign technology in most countries during the early 1970s have not given rise to any noticeable effects on labour productivity, there may have been certain negative consequences. For instance these imports may have been associated with the more persistent expansion of imports of intermediate goods with a relatively high technology content. Although, as noted in section (iv)-(a), imports of such goods have declined relative to output growth, they did not fall as much as imports of investment goods – perhaps because they are necessary for use with the imported investment goods for which inputs of an appropriate specification are not available from domestic sources. To the extent that such imports are constrained by the balance of trade position, any resulting shortages may have affected the smooth operation of imported plant and may hence have restrained their productivity-boosting effects.

At all events, it seems that policy by the end of the 1970s favoured the expansion of intra-regional, rather than east-west trade in investment goods. In volume terms, a comparison of purchases of investment goods from OECD countries with the movement of investment expenditure at constant prices, shown in table 3.6.22, indicates that the share of such imports in the total investment effort in 1980 was approaching or falling below the levels in 1970.²⁸⁶ Although it is not possible to give comparable volume figures for the two flows, the share of investment goods purchased from outside the region in total identifiable imports of investment goods has fallen in current prices compared with the high point reached in 1975/1976.

3.6(vi) Policy responses

In the centrally planned economies greater attention has been devoted to labour productivity growth as the basic factor of overall economic growth.²⁸⁷ Nevertheless, as declining trends in labour productivity growth became more apparent during the 1970s, the imperative of orienting economic policy to achieve higher labour productivity has been felt more strongly and, under changed external and internal conditions, has been linked with broader strategies to achieve higher efficiency on the basis of full utilization of intensive growth factors.²⁸⁸ The transition from predominantly extensive to

TABLE 3.6.21

Identified investment goods exports of OECD countries to the centrally planned economies

(Value, billions of current US dollars)

	1970	1975	1980
Bulgaria	0.10	0.51	0.40
Czechoslovakia	0.26	0.64	0.85
German Democratic Republic ^a	0.16	0.33	0.52
Hungary	0.12	0.41	0.73
Poland	0.22	2.19	1.58
Romania	0.25	0.64	0.81
Soviet Union	1.13	4.93	5.72
Total ^a	2.23	9.65	10.61

Source: OECD East-West data base.

^a Excluding exports by the Federal Republic of Germany to the German Democratic Republic.

²⁸⁵ However, it should be recalled that the intra-CMEA investment goods trade figures exclude the intra-CMEA component of flows not identifiable by country (see note to table 3.6.20 above). Moreover, intra-CMEA trade levels may be underestimated relative to east-west flows due to the undervaluation effect of the intra-CMEA trade price formation system described earlier.

²⁸⁶ Because of the lack of correspondence between import and domestic price levels and relatives, it is not possible to indicate the actual value of imported investment goods in total investment in the centrally planned economies.

²⁸⁷ "The principal factor in economic growth is increasing labour productivity. Under the Eleventh Five-Year Plan the productivity of social labour must be increased by 17–20 per cent. This is to account for no less than 85–90 per cent of the growth rates of national income. It is necessary to ensure much higher growth rates of labour productivity in industry, agriculture, construction and railway transport than those of the Tenth Five-Year Plan.

In all branches of the economy it is essential in every way to create proper conditions for highly productive work, to accelerate integrated mechanization and automation in every way, persistently introduce team-based organization of work, improve rate-setting and enhance the incentive role of pay. Steps should be taken to increase production at existing enterprises with the same or fewer personnel. Attention should be also given to making more rational use of labour in the non-productive sphere". N.A. Tikhonov: *Documents and Resolutions of the XXVI Congress of the CPSU*, Novosti, Press Agency Publishing House, Moscow, 1981, p. 112.

²⁸⁸ "Extensive" growth is characterized by the predominant role of expansion of all production inputs – labour, fixed assets and material inputs in relation to output. "Intensive" growth is characterized by the predominant role of factor productivity. Intensification on this basis may be described as a process whereby total productivity gains provide an increasing contribution to output growth.

TABLE 3.6.22

Relationship between OECD investment goods exports to the centrally planned economies and gross fixed investment in 1970, 1975 and 1980^a
(Indices, 1970 = 100)

	Industry		Material sphere		Total economy	
	1975	1980	1975	1980	1975	1980
Bulgaria	172.8	64.2	173.9	71.6	170.5	69.7
Czechoslovakia	78.7	49.3	81.8	52.9	81.5	55.4
German Democratic Republic ^b	60.6	61.4	87.1	70.9	81.9	65.8
Hungary	122.5	120.0	130.0	131.6	119.6	120.9
Poland	152.7	90.1	203.2	112.4	213.3	109.1
Romania	114.7	82.7	73.5	37.8	74.6	39.9
Soviet Union	159.3	92.3	146.5	93.6	154.0	100.5

Sources: OECD East-West data base, national statistical publications and ECE Secretariat estimates.

^a Volume index of growth of OECD investment goods exports to each country shown divided by the volume index of each country's total gross fixed capital formation.

^b Excluding exports by the Federal Republic of Germany to the German Democratic Republic.

an intensive type of reproduction process on the basis of overall intensification has been proclaimed as the only possible alternative for solving complex economic problems and increasing living standards under conditions of scarcity of the main production resources.

As to the numerous policy responses to labour productivity issues only the most important are discussed below.

(a) Scientific and technical progress

Scientific and technical progress is considered to be a major determinant of labour productivity growth. Nevertheless, the precise way in which science and technology is related to labour productivity growth is complex and may not be fully understood, and also insufficient quantitative information is available at the macro-economic level.

Although policy objectives and priorities may vary from one country to another, measures taken by the government authorities and management have been generally directed towards expanding scientific and technological potential, accelerating the application of the results of research and development and raising the effectiveness of countries' participation in the international division of labour.

A lot of attention has been devoted to technological advance. Investment programmes have reflected this policy orientation primarily through the high priority given to technology-promoting branches. A structural shift in favour of engineering and chemical industries has been envisaged in the plans and realized. Many countries have elaborated programmes of modernization and reconstruction for entire industrial branches and some non-industrial activities (notably construction and transport). Investment expenditures destined for reconstruction and modernization have increased their share of total investment.

Systems of planning and stimulating technical development have striven, especially in recent years, to overcome the separation of research and scientific institutions from production units, to link the planning of science and technology with the planning of industrial development and to improve the evaluation criteria and incentive systems in scientific-technical institutions.

Considerable efforts have been made and measures adopted in the sphere of scientific and technical progress. But it has been recognized in many statements, that the implementation of technical development and

innovation activities in the centrally planned economies needs to be speeded up.²⁸⁹

(b) Human factors

The human factor generally and the qualitative side of the labour force specifically have become more and more important under the conditions of limited employment growth and the increasing requirements of economic, technological and social developments on education and skill. The improvement of education and training and incentive systems thus represented an important element of policy responses with regard to labour productivity. A generally increasing share of specialists with higher and secondary education in total employment can be observed in all the centrally planned economies. Increasing attention is being devoted to the more efficient utilization of this human potential.

New methods of labour organization have been promoted for example in the Soviet Union, where great importance is attached to the brigade forms of organization and stimulation of labour on the basis of complex systems of increasing effectiveness and quality of labour and to the so-called "*Schchekinskii*" movement which is oriented towards the achievement of savings in labour and increases in production by means of a complex array of rationalization measures and the remuneration of workers from a special bonus fund built up as a result of decreases in the workforce.

(c) International division of labour

The international division of labour and closer co-operation within the CMEA region is seen as another important factor of labour productivity growth. It is expected that shifts in the structure of output will take place on a bigger scale as new forms of international specialization and co-operation and actions to speed up technological progress, improve quality and realign output structures to changes in demand, are implemented.

²⁸⁹ See, for instance, the speech by Yu. Andropov at the Session of the Central Committee of the CPSU on 22 November 1982: "the question is not new ... Nevertheless, progress is slow ... The answer, too, is long known: to introduce a new method or new technology, production has to be reorganized in one way or another, and this affects fulfilment of plan targets. Moreover, you may be taken to task for failing production plans but only scolded at the most for poor introduction of new technology ... It is necessary to create a situation in which those who boldly introduce new technology do not find themselves at a disadvantage". *ECOTASS*, 6.12.1982.

In close connection with the long-term target-oriented programmes of international co-operation (in the field of fuels, energy and raw materials, the engineering industry, consumer goods production, the agro-food complex and transport systems) a plan of multilateral integration measures for the 1981–1985 period was approved at the 35th session of the CMEA held in Sofia in June 1981. It provides for five major joint capital construction projects, 13 large-scale projects of co-operation and specialization in the chemical and engineering industries, and 13 programmes of scientific and technical co-operation.

At the 36th Meeting of the Session of the CMEA in June 1982 in Budapest it was emphasized that attention will be devoted to the co-ordination of multilateral plans, special importance being attached to the re-tooling of the national economies, the provision of CMEA countries with fuel, raw materials and foodstuffs, the launching of the production of resource-saving machines and equipment, and rational location of energy-consuming enterprises. Closer co-operation in producing micro-processors, industrial robots and components for computer systems was agreed.

(d) *Improvements in management and planning*

The leading role in implementing the economic strategy of higher efficiency and labour productivity is to be played by improvements in the system of management and planning. Efforts to improve the system of management and planning intensified at the end of the 1970s and are continuing.

In 1978 important decisions in this area were taken in Bulgaria and Romania. In 1979 a decree "On the Improvement of the Economic Mechanism and Raising the Efficiency of Production and the Quality of Work" was approved in the Soviet Union. In 1981 a "Set of Measures for Improving the System of Planned Management of the National Economy" was introduced in Czechoslovakia. In the German Democratic Republic significant steps were taken during 1976–1980 to establish large-scale industrial and construction combines with responsibility for a relatively closed product development cycle extending from research and development to foreign trade. In this respect the role of the *Kombinate* in drawing up plans, making investment decisions, selecting production programmes, and participating in marketing and foreign trade was strengthened.

In Hungary, economic reform measures were introduced in 1968 and still continue. Economic policy is based on a flexible approach to planning, while the system of economic regulators is designed to facilitate a more economically rational behaviour of enterprises.

Overall changes in the economic mechanism in all the centrally planned economies seem to be oriented towards improving the system of planning (involving a transition from quantitative targets based on gross output to qualitative indicators connected with net output) and promoting incentive systems (profit and profitability which are to play a greater role in the creation of enterprises' own funds. Wages and bonuses are to be more closely linked with indicators expressing the actual performance of individuals).

The process of change shows signs of having accelerated in recent years. The formation of large-scale, specialized or vertically integrated production complexes has been carried out in many countries of the region. Despite the trend towards concentration and centralization of production in large enterprises, a number of countries have recently begun paying more attention to small state and co-operative enterprises, on the assumption

that small enterprises can adapt more easily to the changing demands of the market.

During the late 1970s and early 1980s, many changes in management and planning were introduced or announced. However, some experts within the centrally planned economies suggest that further changes may be necessary if further progress along a more efficient, "intensive" development path is to be obtained. As noted by a Soviet economist: "Even though a great deal has already been done, measures taken to improve the economic mechanisms in the European CMEA countries are nonetheless more oriented toward the elimination of shortcomings than toward the formation of a mechanism that is appropriate to the conditions of developed socialism and that is capable of decisively placing the economy on the track of intensive development".²⁹⁰

3.6(vii) Summary

Analysis of the centrally planned economies of eastern Europe and the Soviet Union in 1976–1980 presented for example in *Economic Survey of Europe in 1981*, and elsewhere, brings out two important features in economic development: a deceleration in the trend rate of growth of net material product and a high coincidence of net material product and labour productivity growth rates. In order to clarify further these phenomena, the Secretariat set out to analyse labour productivity growth in the centrally planned economies of the region. This paper is the first stage of a programme to examine the causes, nature and implications of the labour productivity growth trends, and therefore its findings should be regarded as tentative.

The analysis presented in this paper confirms a high correlation between NMP and labour productivity growth rates during the 1970s in the centrally planned economies. When NMP growth rates attain high levels as was the case in the first half of the 1970s, labour productivity also rose at a fast pace. However, under conditions where factors other than the work force constrain net material product growth, labour productivity becomes a dependent rather than a determining factor of NMP growth – at least for as long as these constraining factors affect NMP growth. An attempt to identify these factors was therefore a major objective of the present paper.

Available statistical data do not provide a firm basis for determining the factors constraining labour productivity growth and, hence, NMP growth. Some tentative conclusions could be drawn nevertheless.

It was found, firstly, that employment structures did not significantly react to changes in NMP growth. Where there are significant differences in the growth patterns of individual sectors and industrial branches, the overall efficiency of the economy would require substantial differences in employment growth between sectors and branches. Prevailing management and planning systems, however, partly due to the forces of inertia, did not reinforce the expected changes and the labour force was found to be rather resistant to sectoral and branch shifts in output.

At the same time, the analysis of the components of labour productivity growth shows the very different effects of the structural shifts in employment which did in fact take place. Summarizing the finding on this

²⁹⁰ R. Yevstignejev: "Improvement of the Economic Mechanism in European CMEA Member Nations", *Voprosy Ekonomiky*, No. 4, 1981. For English text, see *Problems of Economics*, Vol. XXV, No. 2, June 1982.

subject, it was found that there were significant positive structural effects on total labour productivity growth in the material sphere in most countries of the region in 1971–1975 while their contribution declined in 1976–1980. At the same time labour productivity in industry was boosted by structural shifts in employment which were larger in 1976–1980 than in 1971–1975, although their contribution, on the whole, was not very big.

Thirdly, the analysis of actual as against planned labour productivity growth rates indicates that the tendency for productivity growth to slow down in the second half of the decade was not fully taken into account in the centrally planned economies. In fact, the policy of gradual adjustment to the substantial changes in the world market, which the centrally planned economies adopted after the first oil shock, and which may well be considered desirable on social and – in the short term – even on economic grounds, led to a slow, partial and rather muted reaction to the post 1973 oil price rise and its ancillary effects on world markets. Therefore there were no large and immediate sectoral and branch adjustments and no major changes in the existing employment structure, though such changes were necessary for achieving the planned growth rates of NMP and labour productivity.

Finally, it was argued that scarcity of indigenous technology and the increasing costs of the main imported material inputs also affected NMP and labour productivity growth rates, although it was not possible to quantify the size of such effects. However, a definite fall in the material intensity of net output in the material sphere, particularly in industry, was recorded in most countries of the region. At the same time, it was confirmed that large increases in fixed assets did not bring about substantial changes in the growth of labour productivity.

In one way or another many of these tentative findings have also been reported in the national sources of the centrally planned economies of eastern Europe and the Soviet Union. A general orientation towards an intensive type of economic development in the 1981–1985 five-year plans reinforces the relevance of labour productivity growth for achieving the objectives of the general development strategy of these countries. Five-year and annual plans, as well as changes announced or introduced in management and planning, call for a set of measures to boost labour productivity. These range from those affecting the scale and speed of scientific and technical progress to those dealing with increased participation in the international division of labour, particularly within the CMEA.

CHAPTER FOUR

INTERNATIONAL TRADE AND PAYMENTS

4.1 OVERVIEW AND BACKGROUND: THE ECE REGION IN THE FRAMEWORK OF WORLD TRADE AND FINANCIAL DEVELOPMENTS

The present section examines the main trends in the external economic relations of the ECE countries against the background of recent world developments in international trade and finance. Part (i) summarizes the most recent changes in the foreign trade of the region, reviews the recent changes in the pattern of current account balances, and concludes with an assessment of prospects for world trade. Part (ii) reviews some of the main issues posed by changes in the foreign trade policies of national governments. Part (iii) focuses on some new features in the recent evolution of international financial relations and concludes with a survey of global and east-west financial flows in 1981–1982.

4.1(i) Developments in world trade and current account balances

Since its previous peak in 1979, the expansion of world trade has continuously slowed, coming in 1981–1982 to a full halt of volume growth. Trade value in dollar terms actually declined in these two years. The sharp deceleration of international trade growth reflects the direct and indirect effects of the second round of oil price increases, but it was reinforced and prolonged by the economic policies pursued in the industrialized western countries. These policies primarily restrained import demand, but they also affected trade and payments through their impact on the financial markets, in particular via the rise in interest rates and the dollar appreciation.

After the oil price rise of 1973–1974, the slow growth of the developed countries' imports was partly offset by an increase in their exports to the developing countries. In fact, the oil exporters increased their import demand rapidly, but nonetheless had a large investible surplus. Part of these resources was transferred to other developing countries in the form of medium- and long-term loans which boosted their import capacity.²⁹¹

Since 1979–1980 the situation has developed rather differently. World imports of oil have fallen significantly as a result of the slowdown in economic activity, oil saving measures and a swing from stockbuilding to stock draw-down. Hence, energy prices weakened and actually fell in 1982. Faced with a squeeze on their current account surpluses, the oil exporting countries slowed down the growth of their imports. Their positive role in trade stimulation has been considerably reduced. Demand for non-oil commodities also declined and their dollar prices dropped markedly. Furthermore, a number

of developed countries have tended to limit imports by raising non-tariff barriers. The non-oil developing countries thus have faced decelerating exports and declining terms of trade; in addition, the sharp rise in interest rates and the appreciation of the dollar up to mid-1982 meant a growing debt service burden and increasing financial difficulties, which led to import cutbacks in many of these countries. Hence, the dynamism that the developing countries brought to international trade in the 1970s has vanished more rapidly than was foreseen and is unlikely to reappear in the near future.

Data for the first nine months of 1982 point to a 4 per cent reduction in the *value of world exports* in relation to the same months of 1981. Exports from the ECE region seem to have remained virtually at the 1981 level, the fall in the value of exports from the market economies of the region being almost offset by rising exports from the centrally planned economies (table 4.1.1). The fall in the value of world exports in the first three quarters of 1982 mostly resulted from significantly declining oil trade (the value of OPEC exports dropped 23 per cent in the first half of 1982), but exports from non-oil developing countries also fell some 7 per cent, against a 10 per cent growth in 1981. The downturn in OPEC export revenues in 1982 was mainly the consequence of an estimated 16 per cent decline in *volume* (following volume reductions of the same order of magnitude in the two preceding years), while the drop in the other developing countries' export earnings reflected primarily the fall of *prices* in dollar terms. These countries' export volumes seem to have risen in 1982, although at a much lower rate than in previous years (table 4.1.2). Price changes also accounted for a 2 per cent reduction in the value of exports from the developed market economies in the first three quarters of 1982. West European export volumes expanded by 3 per cent and those of North America declined by 7 per cent. The deterioration in the competitive position of the United States, owing to the appreciation of the dollar, was probably the main cause of the drop in exports from North America. The value of exports from the European centrally planned economies rose by an estimated 6 per cent in dollar terms, with an 8 per cent increase in the exports of the Soviet Union and 4 per cent value growth in the exports of the east European countries. In volume terms, both Soviet and east European exports expanded about 5 per cent.²⁹²

²⁹² The relationship between value and volume changes in the foreign trade of the European centrally planned economies in 1981 and 1982 differs from that observed for most market economies owing to continuing adjustments of prices on the intra-CMEA market towards world market price levels (see section 4.3 below).

²⁹¹ See section 4.1(iii), below.

TABLE 4.1.1

Changes in the value of world trade, by region, 1977-1982
(Percentage change over previous year)

Country group	1981 \$ billion	1977	1978	1979	1980	1981	1982 Jan-Sept.
<i>Exports</i>							
Developed market economies	1234.4	13.8	19.6	27.9	13.2	-2.6	-1.7
Developing market economies	547.3	13.9	4.5	38.2	31.7	-0.3	-11.7
OPEC	280.0	10.0	-3.9	49.3	41.4	-8.7	-23.1 ^a
Non-oil developing countries	267.3	18.5	13.8	28.0	21.1	10.3	-6.9 ^a
European centrally planned economies	158.0	16.4	14.2	20.1	15.1	1.2	7.8
Total above	1939.7	14.1	15.3	29.6	18.0	-1.6	-3.5
<i>Memorandum item</i>							
ECE region	1203.6	13.5	18.8	24.4	16.6	-3.9	-0.2
<i>Imports</i>							
Developed market economies	1336.8	13.5	16.0	28.6	20.2	-6.7	-4.5
Developing market economies	480.3	21.1	15.5	17.5	27.0	11.2	-3.1
OPEC	138.2	34.1	11.9	—	31.0	9.9	10.4 ^a
Non-oil developing countries	342.2	15.2	17.4	26.1	25.5	11.7	-4.6 ^a
European centrally planned economies	154.5	9.5	17.0	13.4	15.0	0.3	1.3
Total above	1971.6	14.7	16.0	24.8	21.2	-2.3	-3.7
<i>Memorandum item</i>							
ECE region	1296.8	13.8	15.9	25.9	18.7	-7.4	-3.7

Sources: United Nations, *Monthly Bulletin of Statistics*, New York, December 1982, and, for the centrally planned economies, ECE secretariat data based on national statistical publications. For market economies, exports are *f.o.b.* and imports *c.i.f.*; for most centrally planned economies, exports and imports are *f.o.b.*

^a First half.

TABLE 4.1.2

Changes in the volume of world trade, by region, 1977-1982
(Percentage change over previous year)

Country or group	1977	1978	1979	1980	1981	1982	
						Jan.-Sept.	Full year
<i>Exports</i>							
Developed market economies	5	6	7	4	2	—	-1
North America	3	11	8	5	-2	-7	-8
Western Europe	5	6	7	2	2	3	1
Developing market economies	0	4	8	-5	-6	-8 ^a	-6
OPEC	1	-4	3	-13	-18	-19 ^a	-16
Non-oil developing countries	5	10	9	6	10	2 ^a	3
European centrally planned economies	9	5	5	2	1	6	5
Eastern Europe	9	6	8	2	2	3	4
Soviet Union	10	4	1	2	—	9	5
Total above	4	5	7	2	1	-1	-2
<i>Imports</i>							
Developed market economies	4	5	8	-1	-3	1	—
North America	9	7	3	-7	2	-6	-5
Western Europe	3	3	11	1	-5	2	2
Developing market economies	8	8	2	5	7	5 ^a	—
OPEC	15	5	-12	15	26	15 ^a	7
Non-oil developing countries	7	8	11	4	6	- ^a	-3
European centrally planned economies	3	9	2	4	1	—	—
Eastern Europe	5	5	2	1	-5	-7	-6
Soviet Union	1	14	2	7	8	7	8
Total above	4	6	7	1	—	2	—

Sources: United Nations, *Monthly Bulletin of Statistics*, New York, December 1982; IMF, *World Economic Outlook*, Washington D.C., April 1982, for the OPEC and non-oil developing countries in 1977-80; OECD, *Economic Outlook* (32), Paris, December 1982, for the OPEC and non-oil developing countries in 1981 and for developed and developing market economies, full year 1982. ECE secretariat estimates for the developing countries in January-June 1982 and for the centrally planned economies.

^a First half.

TABLE 4.1.3

Changes in world export values by origin and destination, 1981-1982^a
(Percentage change from same period of previous year)

Country group of origin	World	Developed market economies	Developing market economies		Centrally planned economies	
			OPEC	Non-oil	Total	European
<i>World</i>						
1981	0.0	-5.4	12.9	9.7	5.4	4.3
1982	-4.2	-3.1	7.3	-9.3	0.0	1.9
<i>Developed market economies</i>						
1981	-1.9	-7.0	12.1	9.2	9.3	6.6
1982	-0.8	0.8	9.0	-3.7	-10.8	-7.5
<i>North America</i>						
1981	9.9	4.2	25.3	15.0	20.4	19.0
1982	-4.0	-3.2	11.8	-6.4	7.7	16.3
<i>Western Europe</i>						
1981	-10.0	-13.0	5.8	-3.0	3.2	3.2
1982	1.3	2.1	10.3	2.1	-14.2	-13.3
<i>Developing market economies</i>						
1981	2.3	-2.3	20.9	10.7	10.0	11.6
1982	-15.7	-13.6	-15.5	-22.6	-12.9	-13.8
<i>OPEC</i>						
1981	-2.8	-4.8	11.3	3.8	-12.1	-11.4
1982	-24.5	-22.7	-10.5	-31.0	-25.0	-25.0
<i>Non-oil developing countries</i>						
1981	8.8	1.2	23.3	20.7	15.3	18.2
1982	-5.6	-1.1	-16.7	-11.9	-10.6	-11.3
<i>Centrally planned economies</i>						
1981	2.7	-0.8	2.2	9.1	1.5	1.1
1982	12.2	8.9	57.3	16.9	11.8	11.8
<i>European centrally planned economies</i>						
1981	1.6	-4.6	3.2	9.3	1.7	1.3
1982	10.1	8.7	57.4	1.8	11.6	11.6

Source: United Nations, *Monthly Bulletin of Statistics*, New York, December 1982, Special table B.

^a First half of each year.

An analysis of changes in the value of exports by destination, based on data for the first half of 1982 (table 4.1.3), indicates that the fall in the value of North American exports was due to a decline in exports to other developed market economies and to non-oil developing countries. West European exports to these markets increased, suggesting that the loss in North American price competitiveness gave west Europeans the possibility to gain market shares. In fact, west European exports to developed and non-oil developing market economies increased by 2 per cent in the first half of 1982, while North American exports to the same regions fell by 3 and 6 per cent respectively. The OPEC countries and, to a lesser extent, the non-oil developing countries experienced substantial declines in exports to all destinations. During the same period, the centrally planned economies still showed substantial gains in exports to all partner groups, but especially in trade with the oil producers.

The value of imports (table 4.1.1) declined in all country groups with the exception of the oil producing countries, which registered a 10 per cent rise, and the European centrally planned economies, where the 7 per cent increase in imports of the Soviet Union offset the 4 per cent decline in the imports of the countries of eastern Europe. As regards import volume (table 4.1.2), the most striking development in 1982 was the decline in the imports of non-oil developing countries, which materialized earlier than foreseen. In April 1982, the IMF had forecast a 3 per cent volume increase in these countries' import demand, and the OECD projection in July of the

same year pointed to a 4 per cent growth. But more recent estimates²⁹³ put the import volumes of non-oil developing countries about 3 per cent below the 1981 level. The import capacity of these countries was dramatically affected, particularly in the second half of the year, by collapsing commodity prices, sharply rising debt service payments and shrinking availability of external credit.

The volume of west European imports increased rather rapidly in the first half of 1982 but declined in the third quarter. For the year as a whole, western Europe seems to have registered a 2 per cent import growth, which compares with a 5 per cent fall in 1981 and with nearly stagnating GDP in 1982. Actually, the 1981 import reduction was largely due to a 9 per cent cutback in oil imports, while in 1982 west European imports of fuels declined by only another 2 per cent (see table 4.2.2), probably as a result of falling real prices and the approaching exhaustion of destocking as a source of supply. On the other hand, imports of manufactures and foodstuffs seem to have been buoyant in the major European market economies, while there appears to have been no significant change in imports of raw materials (table 4.1.4).

In North America, import volume fell sharply in the first six months of 1982 but increased somewhat in the third quarter as domestic demand started to recover. Over January-September, the volume of North Ameri-

²⁹³ OECD (December 1982) and United Nations (February 1983).

TABLE 4.1.4

Selected developed market economies: commodity imports in 1982
(Percentage change in volume from previous year)

	Selected west European countries ^a	North America ^b
Food	4	1
Raw materials	—	-17
Energy	-4	-16
Manufactures	7	-3

Source: ECE secretariat calculations, based on OECD estimates for the full year in OECD, *Economic Outlook* (32), Paris 1982, Tables 41 to 47.

^a Federal Republic of Germany, France, United Kingdom and Italy.

^b Canada and the United States.

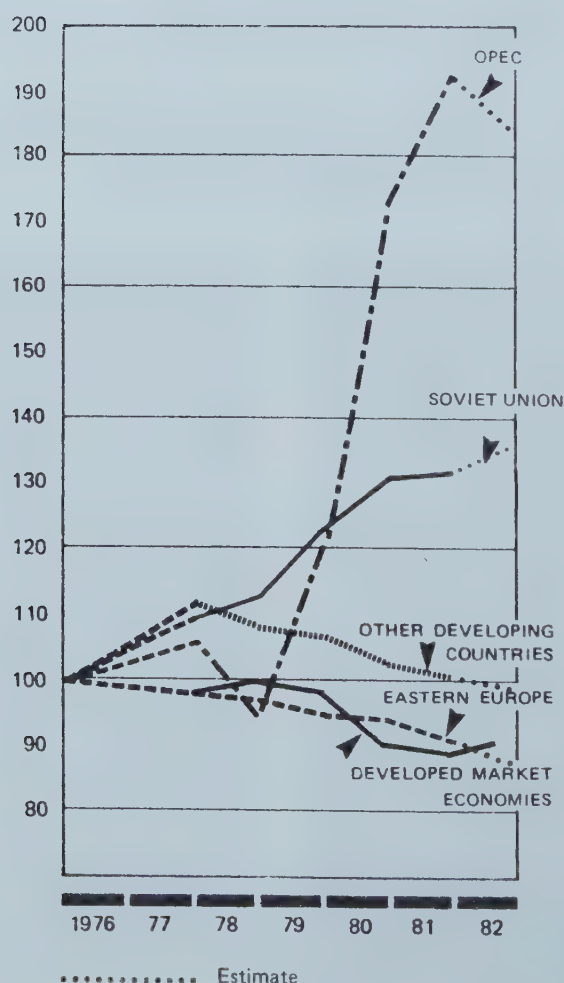
can imports dropped 6 per cent in relation to the same period of 1981, a decline that includes a fall in imports of oil of nearly 20 per cent. The import decline for the full year of 1982 may have been only 5 per cent, implying that the recovery observed in the third quarter continued in the fourth quarter of the year.

Imports of the east European countries declined on a volume basis by 6 per cent in 1982, following on a 5 per cent fall in the preceding year. The 1982 downturn again reflects a sharp drop in imports from the market economies (-14 per cent), which was offset only partially by a small increase in imports from socialist countries. The import volume of the Soviet Union, on the other hand, continued to expand strongly in 1982, with a 9 per cent increase in imports from other centrally planned economies and a 6 per cent increase in imports from the developed and developing market economies.

Price developments have also played a significant role in recent changes in the different regions' external positions. The slowdown of inflation in the developed market economies led to a clear softening of world prices of manufactures which, owing to the appreciation of the US dollar, meant falling prices in dollar terms both in 1981 and 1982 (table 4.1.5). On the other hand, with the easing of demand in the oil market, the average OPEC price fell by about 5 per cent in 1982. The dollar prices of non-oil commodities dropped 16 per cent in 1981 and continued to fall at the same rate in the first three quarters of 1982. As a result of these price movements,

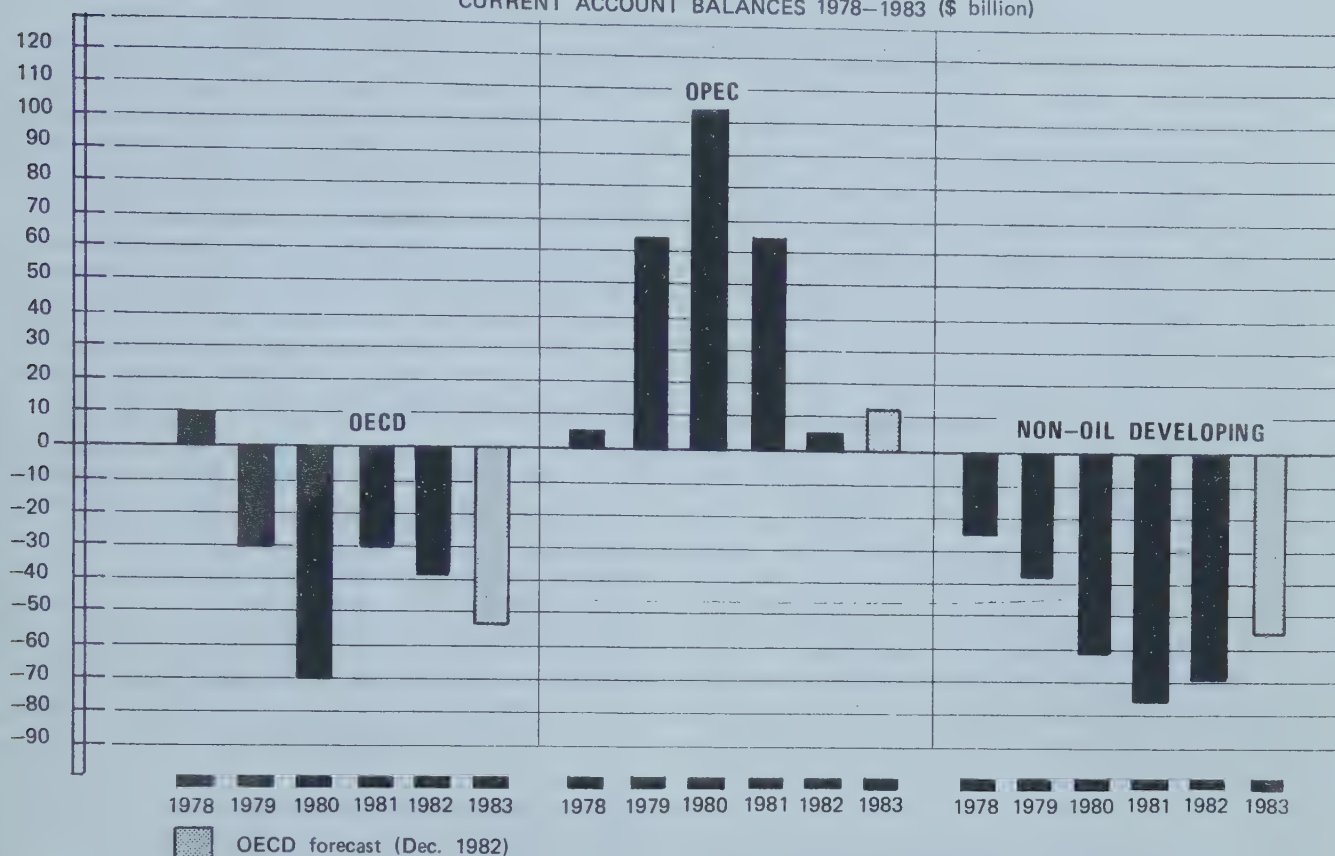
CHART 4.1.1

INDICES OF THE TERMS OF TRADE (in dollars)
(1975=100)



Sources: Table 4.1.6

CHART 4.1.2
CURRENT ACCOUNT BALANCES 1978–1983 (\$ billion)



the *terms of trade* of non-oil developing countries, which had steadily deteriorated since 1977, reached their lowest level since the early 1950s in 1982. The OPEC terms of trade also deteriorated in 1982, after significant gains in the previous three years. The terms of trade of North America improved in both 1981 and 1982, while those of the European market economies registered a slight gain only in 1982, following a deterioration over the period 1978–1981. The terms of trade of the Soviet Union continued to improve and those of east European countries declined, owing mainly to the price movements in the intra-CMEA market (chart 4.1.1 and table 4.1.6).

The global pattern of *current account balances* has substantially changed since 1980 (table 4.1.7 and chart 4.1.2). The OPEC surplus practically vanished in 1982, as a result of declining export revenues and relatively buoyant imports. The aggregate current account deficit of the OECD area fell from \$69 billion in 1980 to about \$30 billion in 1981, but is estimated to have risen again to some \$40 billion in 1982.²⁹⁴ This recent deterioration, which contradicts earlier forecasts of a further improvement, resulted mainly from lower imports by countries outside the OECD area and from a sharp worsening of the United States' trade balance.

²⁹⁴ This is an OECD estimate of December 1982. The Bank of England estimated an aggregate deficit of \$22 billion for the OECD, originating entirely in the smaller member countries, with the major OECD countries reaching balance (Bank of England, *Quarterly Bulletin*, London, December 1982). Estimates of the Department of International Economic and Social Affairs of the United Nations (February 1983) also point to a much more favourable current account for the developed market economies, namely a deficit of less than \$6 billion in 1982.

External constraints have become particularly pressing for an increasing number of non-oil developing countries. The aggregate current account deficit of these countries deteriorated sharply in 1980, mainly because of the oil price increases. In 1981 it worsened by some \$10 billion because of a rapid deterioration of the invisibles account. In fact, adverse terms of trade in this year were offset by compensating trade volume movements, but outflows on account of interest payments and profit remittances grew by about one quarter, due primarily to higher interest rates and exchange rate movements.²⁹⁵ In 1982, part of the improvement in the trade deficit of non-oil developing countries was offset by a further increase in the deficit on services and private transfers, which has doubled from some \$15 billion in 1979 to about \$30 billion in 1982.²⁹⁶ By the end of 1982, debt service payments represented 25 per cent of the non-oil developing countries' export earnings, and this share rises to more than 40 per cent for those countries that are net oil exporters (Mexico, Ecuador, Peru, Egypt, Tunisia, Malaysia and Syrian Arab Republic).²⁹⁷ Furthermore, banks have become significantly more cautious regarding a number of developing countries. The share of the non-oil developing countries in international medium- and long-term bank loans fell to 25 per cent in the second half of 1982 from 37 per cent in the first half of the year and 43 per cent in 1981.²⁹⁸

²⁹⁵ UNCTAD, *Trade and Development Report*, 1982 (United Nations publication, sales No. E.82.II.D.12), New York, 1982.

²⁹⁶ OECD, *Economic Outlook* (32), Paris, December 1982, Table 60.

²⁹⁷ IMF, *World Economic Outlook*, Washington D.C., April 1982.

²⁹⁸ See table 4.1.11 below.

TABLE 4.1.5

Market economies: changes in trade prices (in US dollar terms), by major commodity groups, 1977–1982
(Percentage change over previous year)

	1977	1978	1979	1980	1981	1982 Jan–Sept.
Manufactures ^a	9	15	14	11	–5	–1
Oil ^b	8	2	45	68	13	–5
Non-oil commodities ^c	25	–7	15	15	–16	–16

^a Export unit value index for manufactures of developed countries, United Nations, *Monthly Bulletin of Statistics*, New York, December 1982.

^b OPEC average (\$ US per barrel), NIESR, *National Institute Economic Review*, No. 102, London, November 1982.

^c Indices of market prices of principal commodity exports of developing countries, UNCTAD, *Monthly Commodity Price Bulletin*, Vol. II, No. 12, Geneva, December 1982.

TABLE 4.1.6

Changes in the terms of trade (in terms of US dollars), by region, 1977–1982
(1975 = 100)

Country group	1977	1978	1979	1980	1981	1982 Jan–Sept.
Developed market economies	98	100	98	90	89	92
North America	97	94	93	85	87	89
Western Europe	99	101	100	95	92	93
Developing market economies	106	100	109	124	128	126
OPEC ^a	106	95	122	173	194	189 ^b
Non-oil developing countries	112	108	107	103	101	97 ^b
European centrally planned economies	103	104	107	108	109	109
Eastern Europe	98	97	95	94	91	88
Soviet Union	110	113	123	129	136	140

Sources: United Nations, *Monthly Bulletin of Statistics*, New York, December 1982; IMF, *World Economic Outlook*, Washington D.C., April 1982; United Nations, Department of International Economic and Social Affairs, estimates for OPEC and non-oil developing countries in 1982; ECE secretariat estimates for the centrally planned economies.

^a Excluding Ecuador and Gabon and including Oman.

^b Full year.

While data on the overall current account balance of the European centrally planned economies are not generally available, the movement of commodity trade balances indicates that a significant adjustment has occurred. The trade account of the east European countries, which showed a sharply reduced deficit in 1981, registered a surplus of \$4 billion in 1982 (see table 4.3.7 below). Whereas in 1981 the improvement in the trade balance of these countries was largely offset by the growth in the deficit on invisibles, owing mainly to rising interest rates, in 1982 the movement in the trade account was clearly large enough to eliminate the overall current account deficit of the group. In the case of the Soviet Union, the rise in the trade surplus from \$6.2 billion in 1981 to \$7.6 billion in 1982 should contribute to a significant increase in the overall current account surplus.²⁹⁹

The large statistical inconsistency in international current account compilations for the last two years suggests that the real pattern of current account balances may differ from the one presented above.³⁰⁰ This statistical discrepancy appears to be related to inconsistent recording of transactions in services and private transfers for the industrial and oil exporting countries. Tentative adjustments allowing for the main sources of

TABLE 4.1.7

Balance of payments on current account, by major country groups
(Billions of US dollars)

	1979	1980	1981	1982
Total OECD countries	–28	–69	–31	–39
North America	–5	1	–	–8
North West Europe ^a	–12	–47	–24	–27
Southern Europe ^b	–2	–12	–12	–11
Japan	–9	–11	5	7
OPEC	61	115	67	2
Non-oil developing countries	–38	–63	–73	–63
Other ^c	–4	–11	–10	–2
Eastern Europe and Soviet Union ^d	–4	–5	–6	5
Total ^e	–8	–27	–47	–101

Source: OECD, *Economic Outlook* (32) Paris: December 1982, tables 28, 29 and 56. OECD forecasts for 1983. Current account data including net official transfers.

^a Western Europe other than southern Europe.

^b Greece, Portugal, Spain and Turkey.

^c Includes centrally planned economies, Yugoslavia, South Africa, Malta, Gibraltar, China and selected other Asian countries.

^d ECE secretariat estimates (see table 4.4.5).

^e Errors and asymmetries. Historically, the discrepancy has been greatly influenced by the asymmetric recording of re-invested earnings on foreign direct investment and the recording of exports of ships to flags-of-convenience countries (see Edwin Veil, "The world current account discrepancy", *OECD Economic Outlook – Occasional Studies*, Paris, June 1982). In the last two years another important source of discrepancy has been an apparent systematic under-recording of investment income, especially by financial asset holders in oil-exporting countries. One estimate of these various sources of error suggests that the OECD current account position in 1981 was some \$11 billion better than actually recorded and that of the oil exporters better by about \$14 billion (see Bank of England, *Quarterly Bulletin*, London, September 1982, p.356).

²⁹⁹ ECE estimates discussed in section 4.4 below point to a turnaround of the east European current account position from a deficit with market economies of about \$7–8 billion in the years 1979–1980 to a surplus of perhaps \$2–3 billion in 1982, whereas the Soviet Union, after a deficit of some \$1 billion in 1981, should again be in surplus in 1982.

³⁰⁰ See the bottom (total) line in table 4.1.7, which should be zero.

asymmetry show a much better external position for industrial countries and oil exporters.³⁰¹

Prospects for international trade in 1983 are highly uncertain. Trade developments will be strongly affected by policy stances adopted in the developed market economies, but they will also depend on the possibilities open to major debtor countries for new credits and for restructuring and refinancing their foreign debt. The developments of the last few years have shown that there is a real danger of a vicious circle. A restrictive policy stance in the developed market economies tends to reduce import demand and, hence, to limit export opportunities for other countries. The developing countries, faced with declining export revenues and with intensified external constraints, will have to cut back imports, with a further depressing effect on the developed market economies. Similar considerations may also apply to the prospects for east-west trade, at least with regard to the countries of eastern Europe, whose import demand is likely to be closely linked, at least in the near future, to the development of their export earnings.

In its most recent forecast, the OECD secretariat has significantly lowered its estimate of imports into developing countries in 1983. One fifth of the reduction is attributed to the impact on the import capacity of these countries of weaker demand in the OECD area and lower commodity prices. The remaining four fifths of the reduction represent the effect of the financial constraints experienced by some of the developing countries. This was estimated to lower the real income growth rate of the OECD countries by one half of one percentage point.³⁰² In the late 1970s, the link between real income growth in the industrial countries and export growth in non-oil developing countries was weakened by the increased availability of external credit. This allowed imports to expand in the developing countries in spite of the slow growth in the industrial economies.³⁰³ But external financing is not likely to work to the same extent in the near future.

Developments in trade and payments will also depend upon the policy instruments used in the developed market economies, in particular with respect to monetary policies. In fact, the steady rise in interest rates that lasted up to mid-1982 affected the trade volumes and prices of non-oil commodities with high storage and carrying costs; it also raised the burden of debt servicing and lowered the profitability of investment projects financed through foreign borrowing. At present, with inflation decelerating in the major industrial market economies, money growth targets have been eased and interest rates are somewhat lower. On the other hand, the improvement in the terms of trade of developed market economies could lead to some recovery in their import demand and thus in international trade. The outlook is clouded, however, by the expected downward trend in the import demand of both OPEC and non-oil developing countries.

Finally, trade among the centrally planned economies is likely to be influenced again, as it was in 1982, by the ongoing adjustment in the region to past world market price shifts. This will probably involve a further decline in the terms of trade of the east European countries. In 1982, this evoked a substantial expansion in export volume in the intra-CMEA trade of these countries and a cutback in import volume (see section 4.3 below). A

similar pattern can be expected in 1983, with perhaps somewhat higher growth rates as most countries in the region, including the Soviet Union, envisage some increase in NMP growth.

Table 4.1.8 presents a number of trade and current account forecasts for 1983.³⁰⁴ Exports from the developed market economies may increase some 2 per cent, although in the OECD forecast the growth in European exports is partly offset by a fall in exports from the United States. Total imports of the developed market economies seem likely to increase at a higher rate than exports. In particular, energy imports are foreseen to start growing again with the fall in oil prices and the probable exhaustion of destocking as a source of supply. A recovery in the import demand of the developed countries, especially that of the United States, may enlarge the scope for a revival of export growth in the developing countries, particularly the newly industrializing ones. In any case, the combined deficit of the non-oil developing countries is expected to fall in 1983, mainly due to declining imports. Uncertainties remain, however, with respect to price developments for non-oil commodities. In the last months of 1982, prices of metals increased in dollar terms, probably owing to speculative demand, but there has been no significant change in the prices of other commodities.³⁰⁵ On the other hand, the external positions of non-oil developing countries appear to be rather sensitive to changes in interest rates and exchange rates and, not least, to the availability of external financing. Finally, the outlook for OPEC export revenues is very clouded. Though export volume may grow, that is likely to be offset by the reduction in nominal oil prices; hence, any improvement in the OPEC current account has probably to come from the import side.

In sum, the present economic recession has generalized in such a way that recovery cannot be expected to come, as it did in 1975, from external demand stimuli. Export-led growth now has to give way to growth through domestic demand, namely by means of more expansionary policies in countries that have achieved a significant reduction in inflation and are not in a weak external position.

4.1(ii) Recent developments in commercial policies

In the past few years, the world trade system has been subject to increasing protectionist strains, spreading use of various non-tariff barriers, and more frequent and serious disputes between trade partners reflecting growing disagreements over trade policies. These tendencies appear to be global and a continuation of a trend which started in the second half of the 1970s. It is feared that the accumulation of protectionist measures will slow the necessary structural changes presently under way, increase the difficulties of developing countries in servicing their debt, and impede global economic recovery. Furthermore, once such measures become imbedded, it may become increasingly difficult to

³⁰⁴ The OECD forecasts are based on unchanged nominal crude oil prices, an assumption that has already turned out to be unrealistic. Further, projections are based on the technical assumptions of no change in actual and announced policies, and of unchanged nominal exchange rates from the time the projections were finalized (November 1982).

³⁰⁵ According to United Nations estimates, prices of agricultural products will continue to decline in 1983 (except for tropical beverages), while those for minerals, ores and metals are expected to remain stable. The OECD secretariat forecasts no change in commodity prices on the average, with prices of metals and agricultural raw materials increasing slightly and those of food, beverages and vegetable oils registering a new fall.

³⁰¹ Bank of England, *Quarterly Bulletin*, London, September 1982.

³⁰² OECD, *op.cit.*, p. 137.

³⁰³ M. Goldstein and M.S. Khan, *Effects of the Slowdown in Industrial Countries on Growth in Non-Oil Developing Countries*, (Occasional Paper No. 12), Washington, International Monetary Fund, August 1982.

TABLE 4.1.8

World trade volumes and current-account balances: forecasts for 1983
(Percentage change from previous year; billions of US dollars)

	OECD (Dec. 1982)	AIECE ^a (Oct. 1982)	United Nations (Feb. 1983)
<i>Exports (percentage change)</i>			
Developed market economies	1 ^b	2.5	2
OPEC	15	5	-5 ^c
Non-oil developing countries	3	2	4
Other countries ^d	1.5	3	3
<i>Imports (percentage change)</i>			
Developed market economies	3 ^b	3.5	2
OPEC	6	—	5 ^c
Non-oil developing countries	-2	—	—
Other countries ^d	1	2	2
<i>Change in current-account balances</i> (\$US billion)			
Developed market economies	-15 ^b	5 ^e	12.5
OPEC	15	(small improvement)	-15 ^c
Non-oil developing countries	15	(small improvement)	12
Other countries ^d	—	—	-2.5

Sources: OECD, *Economic Outlook* (32), Paris, December 1982; AIECE, "World Trade 1981-1983", report presented by the Working Group on Foreign Trade to the 1982 autumn meeting (Brussels, 18-19 October 1982), published in ISCO, *Congiuntura Italiana - Rassegna mensile*, Rome, November 1982; United Nations, Department of International Economic and Social Affairs (preliminary estimates for *World Economic Survey 1982-1983*).

^a Association d'Instituts Européens de Conjoncture.

^b OECD countries only.

^c Capital surplus oil exporting countries.

^d In the AIECE and United Nations forecasts, centrally planned economies only.

^e European countries only.

reverse the process. A number of high-level meetings, including in particular the GATT Ministerial Conference in November 1982, have been held with the aim of improving the working of the international trade system.

The increase in protectionist pressures has been due to a number of factors, the most important of which has been the prolonged world economic recession, rising excess capacity and the concomitant climb in unemployment. In this environment both industrial management and organized labour have often sought government action in the form of relief from import competition. It is also likely that exchange rate developments have led to a strengthening of protectionist pressures in those countries with strong and/or appreciating currencies.

Persistent balance-of-payments deficits have not been an important factor in giving rise to trade impediments among most developed market economies, although there have been instances where governments have instituted trade-restraining measures when such imbalances have worsened. In eastern Europe, however, imports had been curtailed in some countries for this reason through the use of administrative measures, quotas, and tariff surcharges and, more recently, because of the necessity to accelerate their external adjustment (see sections 4.3-4). Trade policy measures have also been important among the developing countries because of their external positions and are likely to become more so under the increased pressure to improve their trade accounts.

Many measures of varying importance have been used recently to limit imports on the one hand and encourage exports on the other. Perhaps the most significant of the former are "voluntary" export restraints (automobiles, steel, etc.). They are generally negotiated on a bilateral basis and involve various forms of market sharing. An increasing share of world trade is being conducted according to such agreements which are periodically

updated, taking into account current developments. Other measures have been cited recently as having come into use in particular situations - quotas, surveillance techniques, anti-dumping procedures, "safeguard clauses", labelling requirements, new customs formalities, etc. Regarding export promotion, the issue of subsidies - which can take a variety of forms (at the production, investment, export stage; export credit interest rates, etc.) - has been an increasing source of controversy, particularly in respect of agricultural products and steel.

Generally, the traditional industries - steel, textiles and clothing, shipbuilding and agriculture - have in the past been the beneficiaries of various policy aids, and this continued to be the case in 1982. There has also been more of a tendency for protectionist measures to spread to the more modern and, until recently, relatively dynamic sectors such as automobiles and certain branches of electronics. In the latter case, measures have been taken not only to ease the pressure on established industries, but also to allow relatively new products to enter large-scale production and capture a certain share of the domestic market.

On the whole, it would appear that pressures for adopting protectionist measures will continue and possibly intensify if world economic activity remains sluggish and unemployment stays at high levels. On a global scale such a tendency would be reinforced by debtor countries' attempts to improve their external accounts and, very likely, by their having to adjust to a lower level of financing. Moreover there appears to be some willingness on the part of certain countries to respond to difficulties by considering additional measures - extending voluntary restraint agreements to previously unaffected products or industries, negotiating safeguard clauses, instituting local content requirements and so on.

TABLE 4.1.9

Growth of world production and exports, 1963-1981
(Average annual percentage of change in volume; elasticity ratios)

	1963-73	1973-81	1978	1979	1980	1981
<i>Production</i>						
All commodities	6.0	3.0	4.0	3.5	1.5	1.0
Agriculture	2.5	2.0	4.0	-0.5	1.0	2.5
Mining	5.5	1.0	-1.0	3.0	-2.0	-3.0
Manufacturing	7.0	3.5	4.5	5.0	1.0	1.0
<i>Exports</i>						
All commodities	8.5	3.5	5.5	5.5	1.5	0.0
Agriculture	4.0	4.5	9.0	7.0	3.0	3.0
Minerals ^a	7.0	-2.5	1.5	5.0	-8.0	-12.0
Manufacturing	11.0	5.0	5.0	5.0	4.5	4.5
<i>Exports/Production^b</i>						
All commodities	1.4	1.2	1.4	1.6	1.0	0.0
Agriculture	1.6	2.3	2.3	-14.0	3.0	1.2
Minerals ^a	1.3	-2.5	-1.5	1.7	4.0	4.0
Manufacturing	1.6	1.4	1.1	1.0	4.5	4.5

Source: Based on data in GATT, *International trade 1981/1982*, Geneva, 1982, Tables 1 and 2.

^a Including fuels and non-ferrous metals.

^b Elasticity of exports with respect to production.

East-west trade has also been affected by a number of these trade policy developments.³⁰⁶ Eastern countries have pointed to increasing barriers encountered by their products in western markets, while western countries have drawn attention to reductions in eastern imports and the insistence of some eastern countries on compensation deals. However, two developments, in particular, appear to have influenced the present east-west economic climate, thereby contributing to recent significant changes in east-west trade (discussed below in section 4.4). The financial difficulties experienced by Poland and Romania in 1981 led to the near-termination of lending to these two countries by western commercial banks, and to the curtailment of new credits to the other eastern countries as well. Also, various sanctions were instituted by some western countries in response to the imposition of martial law in Poland in December 1981.³⁰⁷ These measures, particularly the suspension of officially-backed credits for goods other than food³⁰⁸ and the suspension by the United States of most-favoured-nation treatment of Polish goods, are likely to have had a significant effect on Poland's trade.³⁰⁹

The adoption by western commercial banks of a very restrictive lending policy towards all eastern countries in 1982 led to profound changes in the external balances of eastern Europe. By contrast, total Soviet trade with the west was not noticeably affected, although some sectoral flows may have been curtailed. East-west financial developments are discussed in some detail in section 4.1.(iii) below, while their impact on east-west trade is examined in section 4.4.

Despite the rise in the number of restrictive measures, their effects do not yet show up significantly in global trade flows. Although the growth in world exports of all

commodities does appear to have slowed recently relative to the increase in total world production, particularly in 1980 and 1981, this may be explained largely by the decline in output and trade in minerals, including oil (table 4.1.9). The downturn in the trade of the latter commodity can be attributed not only to the easing of total world output growth, but also to significant consumption cuts in reaction to higher prices in oil-importing countries. Developments in agricultural trade, while subject to protectionist policies, also reflect changes in weather conditions.

The average annual growth of world trade in manufactures has slowed by over one-half between the two periods, 1963-1973 and 1973-1981, while the growth in manufacturing output has slowed by approximately the same amount. Therefore, the elasticity of world exports with respect to world production has declined only slightly. Yet, this elasticity actually rose in the shorter and more recent period, 1980-1981, a time in which a decline in this measure might have been expected owing to the upswing in trade constraints.³¹⁰ While the exports of manufactures continued to grow at the rate of roughly 5 per cent in 1980 and 1981, manufacturing output growth dropped sharply. This is the opposite of what would be expected to result from inward-looking policies and merits closer attention.

4.1(iii) Recent developments in world financial relations

(a) New patterns and features in international finance

The present international financial situation is characterized by a sharp increase in the number of countries which have resorted to debt rescheduling, are likely to reschedule or are in arrears on repayments, as well as of private borrowers in difficulties. On the side of the banks, these developments have led to increased provisions for losses on both foreign and domestic loans. In

³⁰⁶ For a recent review of changes in east-west commercial policies, see United Nations, *Economic Bulletin for Europe*, Vol. 34, No. 4 (December 1982).

³⁰⁷ The sanctions imposed by certain western countries on Poland and the Soviet Union have been outlined in *Economic Bulletin for Europe*, loc.cit., pp. 483-484.

³⁰⁸ This decision was taken by NATO Foreign Ministers in January 1982. The United States also suspended officially-backed credits for food.

³⁰⁹ See *Economic Bulletin for Europe*, loc.cit., p. 483 for an estimate made by the United States government of the likely effect of this measure on US imports from Poland. Also, see section 4.4.(ii) below.

³¹⁰ S.A.B. Page has estimated that the managed share of world trade (i.e. trade that is subject to some non-tariff control by exporter, importer or both) in manufactures has risen from 13 per cent in 1974 to almost 24 per cent in 1980. Since then, new barriers would have raised this share even further. Page, S.A.B., "The Revival of Protectionism and its Consequences for Europe", *Journal of Common Market Studies*, Vol. XX, September 1981, pp. 17-40.

the 1970s, reschedulings were an unusual occurrence involving a handful of countries annually and amounts up to some \$5 billion at most (in 1979). In the first years of the 1980s, however, such numbers rose rapidly.³¹¹ The situation became critical in August 1982 when Mexico, with a foreign debt of \$83 billion, declared a three-months moratorium on payments. Other major Latin American debtors were also in difficulties.

Estimates on the levels and recent changes in external indebtedness of two important country groupings illustrate the situation. External debts of the developing countries, largely mediated through the banking system, amounted to some \$620 billion at the end of 1982 – a figure which may be compared to the annual export revenues of these countries of some \$490 billion in the same year. In the course of 1982, this debt had risen by some \$90 billion, while their export revenues had declined by some \$60 billion from the level of the preceding year. In 1970, the external debt of developing countries had been some \$100 billion, with annual export revenues of \$52 billion. In the case of eastern Europe and the Soviet Union, on the other hand, the net debt vis-à-vis the market economies was an estimated \$63 billion at the end of 1982, down by some \$8 billion in comparison with 1981. During the same period, exports of the European centrally planned economies to the convertible currency area rose from \$67 billion to \$69 billion. In 1970, the external debt of eastern Europe and the Soviet Union had been some \$6 billion, with export revenues of \$12 billion.

The above developments may be viewed as the gradual convergence of four factors: first, the long-term rise in external debt in developing countries and in eastern Europe; second, the increase in interest rates on commercial loans to record levels in both nominal and real terms; third, the bunching of repayments on medium-term credits obtained in the burst of borrowing which followed the first oil price rise. The final, and perhaps most important element, was the stagnation of world economic activity, which in turn limited export possibilities, depressed commodity prices to historical lows in real terms and, more recently, reduced oil prices. These factors, possibly together with the rise in protectionism, have sharply increased the burden of debt servicing for many countries. Particularly affected were countries which have incurred a relatively heavy commercial debt and which depend on raw materials for a large fraction of their export earnings. As banks became more cautious in the first half of 1982, certain borrowers began to rely more upon short-term financing, thereby exposing themselves to liquidity problems.

In response to the external financial difficulties facing an increasing number of countries, a new approach – in the form of rescheduling packages – evolved during the second half of 1982. This became necessary when several large countries whose debts dwarfed those of countries that had previously rescheduled – Mexico, as already noted, Brazil (debt of \$89 billion), Argentina (\$39 billion) – ran into financial difficulties which threatened the international financial system. An important feature of this new approach was the unprecedented degree of co-operation between the debtor country, governments of the main creditor countries, the International Monetary Fund, the Bank for International Settlements, and commercial banks. The apparent success of these packages in avoiding immediate default, in elaborating economic stabilization plans, and in providing longer-term financing for the countries in difficulty has, to a degree, increased the level

of confidence in the international financial system. Nevertheless, getting all parties to agree on the elements of the packages has often proved difficult and several have for that reason taken longer to complete than foreseen.

An important characteristic of the package arrangements is the close interdependence of the various elements. The precondition for the rescheduling of debt by creditor governments and banks, the granting of new credits by commercial and international banks, and the acceptance of an economic stabilization plan by the debtor country, is that the totality of the package is carried out. In several cases (Brazil, Mexico, Yugoslavia), commercial banks have been required, as part of the deal, to contribute new funds in proportion to their medium- and long-term exposure which, in fact, has meant increasing the total credit extended to these countries in real terms.³¹²

In general, the overall aim of the new rescue packages has been to provide sufficient debt relief and new funds, in conjunction with support for an economic stabilization policy that would allow the country to progress toward external balance without severe economic dislocations. In particular, the provision of new funds by both commercial banks and the International Monetary Fund is now seen as a necessary element to avoid the adoption of excessively deflationary domestic policies which, in turn, could reinforce the present deflationary tendencies in the world economy.

Nevertheless, economic policy prescriptions calling for cuts in growth rates and imports do tend to be deflationary, both on the country level and in their impact on the international economy. The sovereign debt being rescheduled, together with new credit commitments included in the rescheduling packages, are likely to have a significant impact on the cash flow of international banks and, possibly, on the volume and geographical structure of future lending as well. Rescheduling of principal and, in some cases, a portion of interest payments due, essentially reduces the cash flow from outstanding loans.

The new commercial credits which banks have been required to put up are, according to some bankers, not the type of loans which they would voluntarily make at this time. Accordingly these new credits along with rescheduled debt would tend to increase the share of lower quality loans in bank portfolios. In such a financial climate, the volume of new lending that banks are willing to undertake could well decline – in which case more creditworthy borrowers might find their access to credits constrained. For example, in the four recent commercial reschedulings mentioned above (Mexico, Argentina, Brazil, Yugoslavia), the volume of new bank loan commitments is almost \$13 billion while the amounts to be rescheduled exceed \$30 billion.³¹³ Together these sums would account for a significant proportion of bank lending if compared to recent global lending rates.

Present economic prospects offer mixed (and on the whole not very favourable) possibilities for reducing the burden of debt servicing. On the one hand, prospects for an early and strong recovery of world output are not favourable. Thus, the demand for exports is likely to remain sluggish and trade prices weak. Attention has

³¹¹ In 1980: six countries, involving \$4.5 billion; 1981: 14 countries, \$11.8 billion; 1982: over 20 countries, over \$30 billion.

³¹² This latter provision is particularly unusual since in past commercial reschedulings, banks have not been required to increase their exposure as a precondition of IMF lending. In certain instances, the packages call for commercial banks to maintain existing lines of short-term credits (deposits) as well as the present stock of trade credits.

³¹³ Of this, \$20 billion represents the rescheduling of Mexico's debt to commercial banks.

also been drawn to the rise in protectionism and its unfavourable impact on export revenues.

On the other hand, nominal interest rates have been falling recently, thereby providing some relief to net borrowers. However, the benefits to individual countries also depend on developments in their export prices and their share of floating-rate debt. In general, real interest rates are still high by historical standards and are expected to remain so for some time. Higher margins on medium- and long-term loans, particularly for countries outside the developed market economies, have been partially offsetting lower nominal interest rates. Moreover, those debts which have been rescheduled have carried even higher margins and front-end fees.

World oil market prices have been falling recently and current market conditions raise the possibility of further substantial reductions. Given the important role of oil in the world economy and the adjustments which have been made to high prices, such changes could have a number of significant but offsetting effects (including some unpredicted ones) on countries and the international financial markets. On the one hand, a substantial fall in oil prices would help to spur economic recovery by raising domestic income and demand. Oil-importing countries, which include major debtors such as Brazil, would improve their financial position by virtue of improved current accounts. On the other hand, the strain on the international financial system could increase as the export revenues of oil-producing countries with major debts weaken even further. Moreover, banks have lent substantial sums to private companies in the energy sector,³¹⁴ which could be vulnerable in case of a sharp fall in the oil price.

Another important factor will be the adequacy of the global flow of finance from official and private financial institutions. This would include not only medium- and long-term credits, but also the maintenance of short-term credit lines and trade credits.

In the light of the slowdown in the flow of credits to several regions outside the developed market economies, and considering its deflationary impact, the recent experience of eastern Europe is of interest. Because eastern Europe has experienced a much more severe restriction on new credits than is likely to be the case for most developing countries, this example shows very clearly the sharp decline in imports and the adjustment in the current account that necessarily follow financial shocks of this type (see below and section 4.4(v)). Despite the fact that east European trade is a small part of world trade, this change in the region's external balance, nevertheless, has had a deflationary impact and contrasts with the situation in the 1970s when credit availability was a factor in its expansion.

(b) *Changes in global and east-west financial flows in 1981-1982*

As a result of the problems experienced by the international financial system, the overall volume of international bank lending slowed noticeably in 1982 and its geographical distribution changed substantially. This is evident in the data compiled by the Bank for International Settlements (BIS) shown in table 4.1.10.

The liabilities of countries outside the BIS reporting area increased by \$30 billion (at constant exchange rates) in the first three quarters of 1982, as against \$41 billion in

the same period of 1981. The slowdown accentuated in the third quarter of 1982, when BIS area bank lending fell to some \$4 billion, as against \$20 billion in the second quarter. The third-quarter figures already reflect the repercussions of the Mexican debt moratorium; the lower level of lending probably continued in the final quarter of the year. Even if the pace in the first 9 months were to continue for the whole year, lending would amount to only about 60 per cent of that in 1980 and 1981.

On a regional basis, reduced levels of overall lending are reflected in the sharp decline in lending to non-OPEC developing countries, to eastern Europe and to the Soviet Union. However, this lower level of new credit was partially offset by increased lending to OPEC members. The latter group of countries has increased its demand for financial resources following the near elimination of its current account surplus.

OPEC members were largely responsible for the reduction of almost \$8 billion in the assets of countries outside the BIS reporting area in the first three quarters of 1982, though Latin America and eastern Europe and the Soviet Union also drew down their deposits. In the case of the European centrally planned economies this might have been due to their inability to raise new credits. This was also likely to have been the case in Latin America, where assets declined in each of the first three quarters of 1982.

In 1981, new lending by the BIS area banks had been accompanied by a build-up of assets on the part of the out-of-area countries. However, in consequence of the draw-down of assets in 1982, net liabilities of the countries outside of the reporting area actually rose faster in the first three quarters of 1982 than in the preceding year — by \$38 billion, as against \$35 billion in 1981. Nevertheless, the fact that this accelerated net flow of funds to these countries was accomplished by drawing on their assets suggests that *ceteris paribus* the rate may not be sustainable.

The major recipients of financial resources in 1982 were the OPEC countries, which changed from the status of net providers of funds to the institutions of the BIS region to that of the major users. By contrast, eastern Europe and the Soviet Union experienced a drastic change in the net flow of funds, from an inflow of about \$8 billion over the first three quarters of 1981 to a net outflow of over \$2 billion over the same period in 1982.³¹⁵ This represents a \$10 billion turnaround in the flow of financial resources in a single year. East-west financial relations will be treated in greater detail below, but it may be noted here that the change in the net flow of funds between BIS reporting banks and the eastern countries was of the same magnitude (\$10 billion) as the decline in the net flow of financial resources to the developing countries outside of OPEC, and by the same token much larger relative to the underlying trade flows (see table 4.1.1), debt level and debt service flows, and therefore in its immediate impact. However, there may still be a further significant impact of recent financial developments on the non-oil developing countries.

Very similar patterns to those seen in the BIS data are reflected in the figures on medium- and long-term syndicated credits (table 4.1.11) which also provide some information on the fourth quarter of 1982. These figures indicate a higher level of lending to the developed market economies (in this case the OECD member countries), an increase in lending to the oil exporters, and a sharp decline in new lending to other developing countries

³¹⁴ For example, it is estimated that United States banks alone have at least \$35 billion on loan to domestic companies in the energy business, compared to about \$43 billion to less developed countries that are heavily dependent on oil revenues (*International Herald Tribune*, 14 February 1983, p. 7).

³¹⁵ The January-September 1981 data show a somewhat higher net inflow of funds than those for all of 1981 owing to the unusually low level of Soviet assets in the BIS banks at the end of September 1981, which was subsequently restored.

TABLE 4.1.10

Changes in the liabilities and assets of countries outside the BIS reporting area at BIS reporting banks, 1978-1982
(Billions of US dollars, constant end-of-period exchange rates)

Country groups	1978	1979	1980	1981	Q1-Q3		Q3
					1981	1982	1982
<i>Changes in liabilities</i>							
Total	49.5	57.1	68.8	66.2	41.4	30.3	3.9
Developed countries	5.7	7.5	15.5	16.8	12.4	12.3	3.0
OPEC countries	16.4	7.2	7.1	4.3	1.5	7.7	2.8
Other developing countries	21.8	35.3	39.2	40.4	23.5	14.5	-0.8
Latin America	12.9	22.9	28.4	30.8	18.5	12.8	1.2
Eastern Europe and Soviet Union	5.6	7.1	7.0	4.7	4.0	-4.2	-1.1
<i>Changes in assets</i>							
Total	26.8	61.4	47.7	16.4	6.0	-7.7	-1.4
Developed countries	8.3	7.4	0.9	3.4	2.3	2.5	2.6
OPEC countries	2.9	37.0	41.6	3.3	6.0	-10.4	-3.7
Other developing countries	14.0	12.4	4.1	9.5	1.3	2.0	-0.9
Latin America	7.2	4.7	0.3	4.7	0.6	-2.1	-1.3
Eastern Europe and Soviet Union	1.6	4.6	0.8	0.2	-3.6	-1.8	0.6
<i>Changes in net liabilities</i>							
Total	22.7	-4.3	21.4	49.8	35.4	38.0	5.3
Developed countries	-2.6	0.1	14.6	13.4	10.1	9.8	0.4
OPEC countries	13.5	-29.8	-34.5	1.0	-4.5	18.1	6.5
Other developing countries	7.8	22.9	35.1	30.9	22.2	12.5	0.1
Latin America	5.7	18.2	28.1	21.3	17.9	14.9	2.5
Eastern Europe and Soviet Union	4.0	2.5	6.2	4.5	7.6	-2.4	-1.7

Source: Bank for International Settlements, *Fifty-First Annual Report*, Basle, June 1981 is the source of data for 1975-1977. For the years 1978-1982, the sources are the *Fifty-Second Annual Report*, Basle, June 1982; and *International Banking Developments - third quarter 1982*, January 1983.
Net liabilities: a negative sign indicates a decline in outside-of-area net liabilities.

(including Mexico). Moreover, two-thirds of the new lending to developing countries was made in the first half of 1982, after which the rate sank in both of the last two quarters. There are indications that the syndicated loan market remained weak in the early weeks of 1983.

Against this background, the recent course of *east-west financial relations* can be considered in greater detail.³¹⁶ Several developments in 1981 and 1982 were to have a profound impact on east-west financial flows. On the whole, 1981 started as a normal financial year for east European borrowers in terms of the level of new credit takings and financial conditions. However, as Poland's financial difficulties became more serious, eventually leading to the rescheduling of both its commercial and officially-backed debt due in 1981, credit institutions became more cautious and borrowing became progressively more difficult, particularly in the syndicated medium- and long-term market. Later in the year, reports began to circulate of payments arrears by Romanian banks. This contributed to an atmosphere in which syndicated lending practically ceased. Those countries of the group with credit needs were forced to obtain short-term loans which, in general, they found inappropriate for purpose of domestic investment finance.

Nevertheless, commercial credits continued to be an important source of external financing in 1981 for the countries of eastern Europe, while in the Soviet Union commercial credits and gold sales appeared to play approximately equal roles. Subsequently, almost all sources of commercial credit virtually dried up as

political tension mounted at the end of 1981. Another phenomenon, affecting several countries in 1982, was the sudden withdrawal of deposits by certain foreign financial institutions from east European banks, thereby exposing these countries to potential liquidity crises. The net result was that for the first time in many years, eastern repayment of debt exceeded new borrowing in the east-west relationship.

As already noted, the first three quarters of 1982 show a dramatic turnaround in east-west financial flows. Total eastern *liabilities* vis-à-vis BIS reporting banks declined by \$4.2 billion (at constant exchange rates) relative to end-December 1981. Since in response the eastern countries drew down their *assets* in BIS banks by \$1.8 billion, the change in *net liabilities* was a decline of \$2.4 billion which compares with a \$7.6 billion increase in the first three quarters of 1981 (table 4.1.12). In other words, for the first time since these statistics have been kept, the eastern countries were net providers of funds to the international financial system, implying a reversal in the net transfer of resources and thus a reduction in their net debt.

Some additional light is thrown on these changes in table 4.1.12, which provides a breakdown of movements in assets, liabilities, and net liabilities by country. The change in eastern liabilities is likely to reflect a number of factors. First, at the beginning of the year, it was widely reported that some eastern countries experienced large-scale withdrawals of deposits by foreign banks.³¹⁷ Hungary has reported that such withdrawals amounted

³¹⁶ For further information, see also *Economic Bulletin for Europe*, loc.cit., Chapter 2.4.

³¹⁷ If banks belonging to countries outside the BIS reporting area withdrew deposits, as was reportedly also the case, such transactions would not be reflected in these data.

International Medium-and Long-Term Bank Loans, 1980-1982
(Billions of US dollars)

^a Ecuador and Venezuela, which are also included in 'oil exporters', and Argentina, Brazil, Chile, Colombia, Mexico and Peru, which are also included in 'other developing countries'.

* Total also includes Albania and an unallocated residual

to around \$1 billion in January-March 1982. The country estimates in table 4.1.12 suggest that the phenomenon may have been a more general one.³¹⁸ Due to the unpropitious climate in 1982, commercial lending to east European countries slowed sharply and, in some cases, probably ceased entirely. Such a situation, in which debts are not, or cannot be, rolled over as they come due (i.e. repayments exceed new credits), would also lead to the observed reduction in its liabilities. The Soviet Union is likely to be subject to the same factors early in the year, but the subsequent decline in its liabilities (in the third quarter) is likely to have been due to reduced borrowing following an improvement in its trade balance (its assets rose in the second and, particularly, in the third quarter). With the exception of Bulgaria, the liabilities of all eastern countries fell.

The general east European response to this development, again with the exception of Bulgaria, was to obtain financial resources by drawing down *assets*. The present relatively low level of east European assets may have some impact on the future development of east-west trade. At the end of September 1982, east European assets stood at \$4.2 billion, which compares with the \$5-6 billion in the same month in the three-year period 1979-1981.³¹⁹ In terms of the asset-liabilities ratio, the use of which partially eliminates exchange rate effects, assets were 11 per cent of liabilities in September 1982 in comparison with 14-15 per cent in the earlier period.³²⁰ If the asset-liabilities ratio were raised to past levels, it would involve adding some \$2 billion to the assets of eastern Europe. A decision by the eastern countries to adopt such a policy would offset to some extent their increased capacity to import stemming from lower interest rates and debt servicing.

The east European countries' access to new commercial credits does not appear to have improved since the third quarter of 1982, the last period for which relatively comprehensive data are available. As has been men-

tioned above, new syndicated Euro-credits, with some minor exceptions, have been precluded. Another possible indicator of the ability to borrow, the level of eastern Europe's undisbursed credit commitments, continued to decline, falling from \$5.2 billion at end-December 1981 to \$3.8 billion at end-June 1982.³²¹ This latter figure represents a \$4 billion decline from the \$7.9 billion at end-December 1980, the last date for which data are available before the banks started to become more cautious. These are lines of credit which countries have negotiated with commercial banks for future use and are an indication of the minimum volume of credit to which the borrower will have access. By contrast, undisbursed credit commitments to the Soviet Union increased by some \$1.4 billion in the 12-month period ending June 1982. These data presumably reflect some of the lines of credit linked to the sales of various pipeline equipment which are backed by government guarantees.

Given the relatively low level of east European assets and the general tightness of credit, it is unlikely that western exports to eastern Europe will revive much in the near future.

As noted above, the external debt of eastern Europe and the Soviet Union declined by an estimated \$8 billion between the end of 1981 and the end of 1982. About one-half of this change was due to the appreciation of the US dollar,³²² and the other half resulted from the current account surplus in convertible currency transactions recorded by the east in 1982 (see section 4.4.(v) below). In fact, 1982 was the first year that the net debt of the region declined, although there had been instances in which individual eastern countries have reduced their debt.³²³

³²¹ Also see *Economic Bulletin for Europe*, loc.cit., table 2.10.

³²² This effect stems from the fact that a significant portion of the eastern debt is denominated in terms of non-dollar currencies.

³²³ An unanticipated reduction in 1982 in the Czechoslovak debt was mentioned by Deputy Premier S. Potáček, *Plánované hospodárství*, loc.cit., p.2. In the case of Poland, there was a further increase in convertible currency indebtedness in 1982 despite a positive trade balance with market economies because amortization and interest due had not been fully paid. In terms of zlotys, the debt rose from zł. 2036 billion to zł. 2147 billion, but expressed in US dollar terms it declined from \$25.5 at the end of 1981 to \$24.8 billion at the end of 1982 (*Trybuna Ludu* (Warsaw), 12-13 February 1983). The end-1981 debt includes \$2.6 billion owed to the socialist countries.

³¹⁸ Data from the first quarter of 1982 may be particularly relevant to this phenomenon. See *Economic Bulletin for Europe*, loc.cit., table 2.9.

³¹⁹ Eastern Europe's assets appear to follow an annual cyclical pattern, falling from a peak in December to a trough in March, after which they recover through the remainder of the year.

³²⁰ Such a decline was experienced by all countries of eastern Europe, except Bulgaria, where the ratio was 45 per cent in September 1982. The figure for the Soviet Union was 54 per cent.

4.2 WESTERN EUROPE AND NORTH AMERICA³²⁴

This section reviews recent developments in the trade and current accounts of the market economies of Europe and North America. It starts by describing the evolution of export and import volumes and prices. The value changes of western countries' exports are then broken down by areas of destination and those of imports by areas of origin. This helps to identify differential developments in regional trade flows. The current account of western Europe and North America is discussed further, with special emphasis on the south European countries, where the external position has become an important constraint in policy making. Finally, reference is made to recent policy measures that may affect the outlook for trade and payments in the developed market economies.

4.2(i) Trade volumes and prices

The sluggishness of *trade volumes* in the developed market economies in 1982 resulted from contrasting developments in North America, where foreign trade contracted, and in western Europe, where both exports and imports seem to have expanded (table 4.2.1). Data for the first nine months of 1982 show that the volume of North American *exports* was about 7 per cent below their level in the same period of 1981 and that exports from western Europe increased by 3 per cent. Apparently, western Europe has increased its market shares, both inside and outside of the developed market economies, mainly at the expense of North America. However, indices of export volumes on a quarterly basis (chart 4.2.1) show a decline in west European exports in the third quarter of 1982 as a result of falling intra-European trade and cutbacks in imports by a number of developing countries.

The changes in export volumes have, nevertheless, differed substantially across countries (table 4.2.2). Exports from Canada stagnated while those from the United States declined by 11 per cent (15 per cent in the case of manufactured goods), probably due to the strengthening of the dollar. Most industrial countries of western Europe registered an increase in export volumes, the exceptions being France, Switzerland and Norway.³²⁵ These countries seem to have experienced a deterioration in their competitive positions, which is apparently due to non-price factors in France (e.g. delays in deliveries)³²⁶ and to cost-price factors in Switzerland and Norway.³²⁷ Italy registered significant export growth, as did a number of smaller industrial countries, namely Austria, Belgium, Denmark and Sweden.

Exports of southern Europe grew, both in 1981 and in

1982, at relatively high rates; however, to a large extent this expansion reflects the boom in Turkish exports. Since 1980, exports from Turkey have risen at unprecedented rates as a result of export promotion measures, and because conditions in the Middle East enabled Turkey to gain market shares in the area. Spain also recorded a large export increase in 1981, but in 1982 export growth slowed down markedly. Yugoslav exports fell in 1982 after they had risen 12 per cent in the previous year; this decline resulted from import cutbacks and reflects the import-export linkages that exist in the country's external relations. Exports of Greece and Portugal performed poorly in 1981 due to losses of competitiveness; in 1982 the relative buoyancy of these countries' commodity exports was offset by declining exports of services.

Import volumes in North America declined in the first half of the year and surged in the third quarter (chart 4.2.1). Nevertheless, North American imports in the first nine months of 1982 were some 6 per cent below the level of the previous year. Canadian imports dropped 13 per cent and those of the United States 4 per cent (table 4.2.2). In both countries, imports of oil fell sharply – data for the first half of the year show that the volume of oil imports declined by 30 per cent in Canada and by 19 per cent in the United States.

Over the first three quarters of 1982, the volume of imports in western Europe increased by about 2 per cent, which compares with a significant import cutback in 1981 (table 4.2.1). However, this growth took place in the first six months of the year: west European imports declined in the third quarter. In particular, imports of the United Kingdom, France and Italy rose at relatively high rates in the first half of 1982. As mentioned above, western countries' imports of food and manufactured products seem to have expanded rather rapidly, while imports of oil declined, but much less than in 1981 (tables 4.1.4 and 4.2.2). The imports of Spain and Turkey increased less than exports, while Yugoslav imports fell sharply. In all three cases this reflected restrictive policies imposed by a weak external position. In Greece and Portugal, imports rose more rapidly than exports, thus contributing to the deterioration of these countries' current accounts.

With the slowdown of inflation and the strengthening of the dollar, *export prices* of the European developed market economies fell in dollar terms in both 1981 and in 1982 (table 4.2.3 and chart 4.2.1). In contrast, North American export prices rose by 8 and 1 per cent, in 1981 and 1982 respectively. These price increases originated in the United States, entailing a substantial deterioration in this country's competitive position (see chart 4.2.2) and a further loss in market shares vis-à-vis European exporters. The prices of exports from the south European countries declined less than those of industrial Europe. This can probably be attributed to the high inflation rates prevailing in the former group of countries, which in some cases were not fully compensated by exchange rate adjustments.

Due to the collapse in prices of non-oil commodities and the 5 per cent decline in oil prices, the *import prices* of the developed market economies fell more markedly than their export prices in the first three quarters of 1982. This improvement in the *terms of trade* was greater

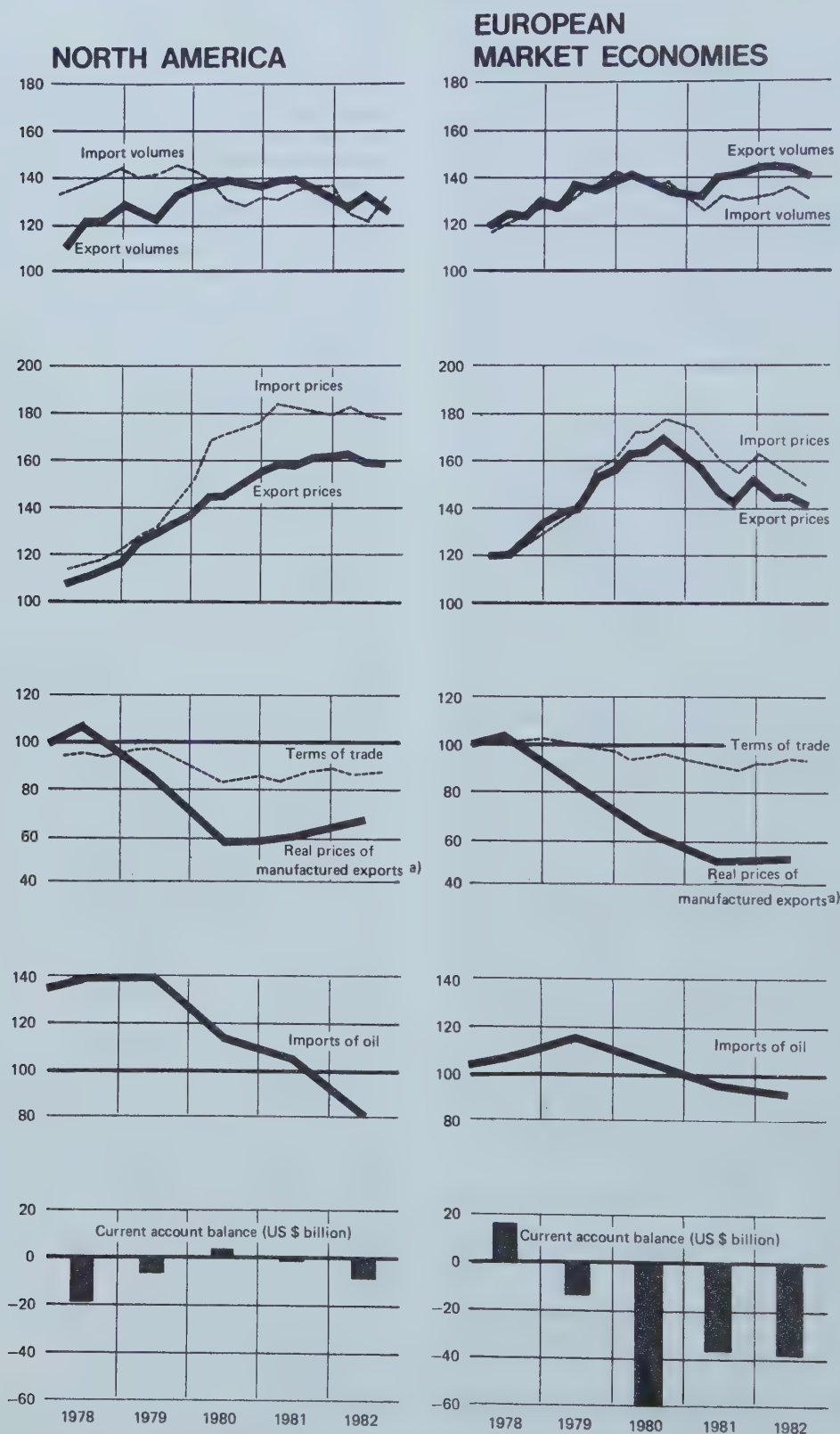
³²⁴ "Western Europe" will be used here to designate the European market economies, including south European countries. Whenever southern Europe is treated separately, the rest of western Europe will be called "industrial western Europe".

³²⁵ Norwegian exports of manufactured products increased 6 per cent in volume terms, but this resulted from a substantial rise in exports of ships and oil platforms, while exports of other manufactures declined.

³²⁶ Chambre de Commerce et d'Industrie de Paris, Centre d'Observation Economique, *Lettre Mensuelle de Conjoncture*, no.240, février 1983.

³²⁷ Indices of relative unit labour costs for 1982 show a deterioration in the competitive position of Norway and Switzerland and an improvement in that of France (OECD, *op. cit.*, Table 26).

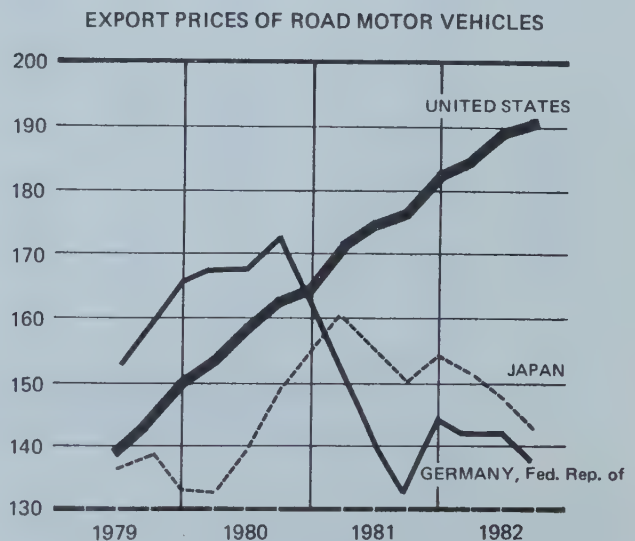
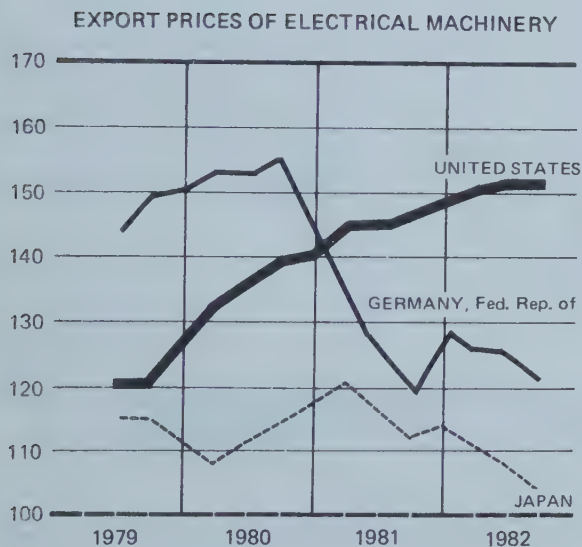
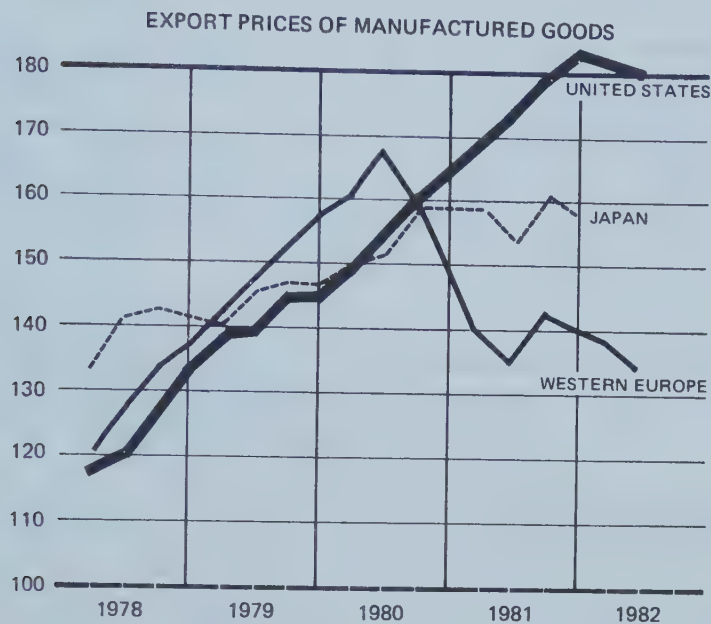
CHART 4.2.1.
FOREIGN TRADE AND CURRENT ACCOUNT BALANCE
1975 = 100



Sources: United Nations, *Monthly Bulletin of Statistics*, New York, December 1982.
OECD, *Economic Outlook* (32), Paris, December 1982.

a) Ratio of unit value indices of manufactured goods exports to those of fuel imports.

CHART 4.2.2.
EXPORT PRICE DEVELOPMENTS (IN DOLLARS)
1975 = 100



Source: United Nations, *Monthly Bulletin of Statistics*, New York, various items.

for the European countries than for North America. However, the latter had already had a terms of trade gain in 1981, when western Europe was still experiencing losses. An additional indicator of relative prices is the ratio of prices of manufactured exports to those of imported fuel. For North America, this ratio has increased since 1980, while for western Europe it rose only in 1982, and then only slightly (chart 4.2.1).

4.2(ii) Changes in regional trade values by origin and destination

In *value* terms, the North American *exports* fell by about 6 per cent in the first nine months of 1982. This decline reflected falling exports from the United States to all of the selected regions, except the Soviet Union, OPEC and southern Europe (table 4.2.4). In particular,

TABLE 4.2.1

Developed market economies: changes in foreign trade volumes, 1977-1982
(Percentage change from previous year)

Country group	1977	1978	1979	1980	1981	1982 January-September
<i>Exports</i>						
Total developed market economies	4.5	6.0	7.3	3.8	1.5	—
North America	2.8	11.0	8.3	5.3	-2.2	-6.6
Western Europe	4.5	6.0	7.3	2.3	1.5	3.0
<i>Imports</i>						
Total developed market economies	3.5	5.1	8.1	-0.8	-3.0	0.5
North America	9.3	7.0	2.9	-7.0	1.5	-5.8
Western Europe	2.7	3.4	10.8	0.8	-4.5	1.9

Source: United Nations, *Monthly Bulletin of Statistics*, New York, December 1982.

TABLE 4.2.2

Developed market economies: change in foreign trade volume, by country, 1981-1982
(Percentage change from the previous year)

	Total exports		Manufactured exports		Total imports		Oil imports	
	1981	1982 ^a	1981	1982	1981	1982	1981	1982 ^b
<i>Developed market economies</i>	2	-2	2	-2 ^c	-2	—	-10	-8
North America	-2	-7	-2	-11	2	-6	-12	-20
Canada	4	—	6	1	3	-13	-7	-30
United States	-3	-11	-5	-15	1	-4	-13	-19
Industrial western Europe	2	2	2	2 ^c	-5	2	-9	-2
Austria	6	4	..	..	-2	1	-12	-14
Belgium-Luxembourg	-1	3	-1	5 ^d	-4	—	-12	7
Denmark	4	4	6	9 ^b	-3	4	-16	-7
Finland	3	—	1	-1 ^b	-6	—	-15	-16
France	4	-4	1	-2	-3	4	-13	-7
Germany, Fed. Rep. of	5	2	6	2	-4	1	-15	-1
Ireland	2	8	..	..	2	-3	1	..
Italy	4	6	7	5	-5	5	-2	-6
Netherlands	1	—	3	..	-7	—	-7	11
Norway	1	-1	-1	6 ^c	—	5	-22	29
Sweden	2	4	..	..	-7	2	-17	-5
Switzerland	1	-5	3	2 ^b	-8	-3	-10	11
United Kingdom	-1	1	-5 ^e	4 ^b	—	6	-17	9
Southern Europe ^f	15	5	..	..	1	—	..	..
Greece	2	-2	..	..	-1	1	-2	-29
Portugal	-2	4	..	..	6	6	-5	-1
Spain	8	4	..	..	-4	2	-1	-11
Turkey	81	34	..	..	22	6	4	15
Yugoslavia ^g	12	-7	..	..	-5	-14	..	..

Sources: United Nations, *Monthly Bulletin of Statistics*, New York, December 1982; OECD, *Economic Outlook* (32), Paris, December 1982; Department of Industry and Trade, *British Business*, London, HMSO, November 1982; OECD, *Quarterly Oil Statistics*, Paris, 1982, No.3.

^a OECD estimate, full year.

^b First half.

^c January-September.

^d First quarter.

^e Department of Industry and Trade, *op.cit.*

^f Exports and imports of goods and services.

^g National statistics and direct communication to the ECE Secretariat.

exports from the United States to industrial western Europe dropped almost 8 per cent and exports to the non-oil developing countries declined by about 10 per cent. In the same period, the value of exports from industrial western Europe declined about 1 per cent, reflecting falls in exports to the European centrally planned economies, OPEC and non-oil developing countries. West European exports to the latter country groups appear to have fallen sharply from mid-1982, as data for the first half of the year show exports from western Europe to the non-oil developing countries and to the OPEC countries growing

by 2 and 10 per cent respectively.³²⁸ The value of west European intra-trade was sluggish but exports from Germany and Italy grew significantly. These two countries were also largely responsible for the increase in European exports to North America. By contrast, the growth in exports to Japan is distributed over most west European countries. Japanese exports to all importing areas except the Soviet Union declined.

The value of imports into North America declined by

³²⁸ See table 4.1.3 above.

TABLE 4.2.3

Developed market economies: changes in foreign trade prices (in US dollars) and in the terms of trade, 1977-1982

(Percentage change from the previous year)

Country group	1977	1978	1979	1980	1981	1982 Jan-Sept.
<i>Export prices</i>						
Developed market economies	9	13	15	13	-4	-2
North America	2	6	15	14	8	1
Western Europe	10	15	17	13	-10	-3
Southern Europe	13	3	17	13	-3	-1
<i>Import prices</i>						
Developed market economies	10	10	19	21	-2	-5
North America	7	8	16	25	6	-2
Western Europe	10	13	19	18	-7	-5
Southern Europe	9	8	11	14	4	..
<i>Terms of trade</i>						
Developed market economies	-1	1	-2	-8	-1	3
North America	-4	-3	-1	-9	2	1
Western Europe	-	2	-1	-5	-3	2
Southern Europe	-4	-6	6	-2	-7	..

Sources: United Nations, *Monthly Bulletin of Statistics*, New York, December 1982.

TABLE 4.2.4

Developed market economies: changes in export values by area of destination, January - September 1982^a

(Percentage change from the same period in previous year)

Country of origin	World	Industrial western Europe	Southern Europe ^b	North America	Japan	Eastern Europe	Soviet Union	OPEC	Non-oil developing countries
North America	-5.6	-8.2	4.2	-6.3	-1.3	-40.7	32.9	7.9	-9.1
Canada	0.6	-13.1	11.6	1.5	6.1	26.5	18.2	10.0	2.1
United States	-7.4	-7.5	3.8	-15.2	-2.6	-51.1	42.0	7.7	-9.8
Industrial Western Europe	-1.2	0.8	-0.3	2.2	4.8	-21.6	-3.6	-2.7	-4.1
Austria	1.6	1.9	-1.7	20.8	1.9	-12.6	16.2	10.8	-1.3
Belgium-Luxembourg	-3.6	-2.5	-4.8	-3.0	2.9	-31.1	-17.6	-17.8	-1.0
Denmark	-3.4	-2.3	-5.9	6.7	-41.2	-26.0	-12.2	-10.2	-5.2
Finland	-5.4	-7.4	-14.8	-18.6	42.5	26.8	2.2	-2.5	-23.5
France	-9.0	-6.9	-10.1	-4.2	14.7	-38.9	-23.9	-2.8	-6.0
Germany, Federal Republic of	4.0	4.8	3.4	6.1	5.3	-14.8	12.0	11.3	-6.2
Ireland	7.3	8.0	3.5	20.5	115.2	-56.7	-28.6	0.3	-14.2
Italy	3.1	8.2	5.8	12.1	25.1	-21.1	16.1	-12.2	-3.1
Netherlands	2.2	6.1	10.5	-2.8	0.4	-21.9	-33.9	-12.3	-5.1
Norway	0.4	1.6	-34.3	-24.7	-16.3	-4.4	-11.0	-17.9	24.7
Sweden	-3.8	-2.0	-10.2	11.3	15.1	-30.2	-18.7	-5.2	-17.3
Switzerland	0.7	-2.3	5.3	1.0	-	-5.7	-4.0	18.3	4.6
United Kingdom	-5.5	-4.0	2.8	-0.3	0.8	-30.1	-31.6	-6.1	-0.7
Japan	-6.7	-6.9	-9.4	-2.1	-	-33.0	22.0	-2.3	-10.9

Source: IMF, *Direction of Trade*, Washington D.C., December 1982; OECD, *Statistics of Foreign Trade*, Series A, Paris, January 1983.

^a Based on exports f.o.b., in US dollars.

^b Greece, Portugal, Spain, Turkey and Yugoslavia.

about 7 per cent in January-September 1982, with import values of the United States falling 5.5 per cent and those of Canada dropping by 13 per cent (table 4.2.5).³²⁹ The fall in North American imports resulted from decreasing intra-regional trade and sharply declining imports from eastern Europe, the Soviet Union and OPEC. The value of imports into west European countries declined some 3 per cent in the same period, owing to decreasing imports from all regions except southern Europe and the Soviet Union. In particular, western Europe's imports from OPEC countries contracted some 20 per cent in value,

whereas those from the Soviet Union registered a 15 per cent increase. This rise in European imports from the Soviet Union is related to increasing imports of oil and related products (presumably through the spot market, where oil prices have declined especially rapidly), and also to an expansion in imports of light manufactures and some raw materials (see section 4.4). The increase in west European imports from southern Europe probably reflects the growth in imports of food and manufactured consumer products.

4.2(iii) Current balances

The most recent OECD estimates of current account balances indicate a widening of the aggregate deficit for

³²⁹ It should be noted that figures in table 4.2.5 are based on imports c.i.f. and those in table 4.2.4 on exports f.o.b. The difference between c.i.f. and f.o.b. values, the insurance and transport costs of imports, may create inconsistencies between the percentage changes in the two tables.

TABLE 4.2.5

Developed market economies: changes in import values by area of origin, January–September 1982^a

(Percentage change from the same period in previous year)

Country of destination	World	Industrial western Europe	Southern Europe ^b	North America	Japan	Eastern Europe	Soviet Union	OPEC	Non-oil developing countries
North America	-7.1	1.2	-3.4	-5.3	4.4	-27.9	-36.5	-37.0	1.6
Canada	-13.3	-4.1	-11.7	-11.8	-10.0	-25.8	-39.2	-43.6	-3.1
United States	-5.5	1.9	-2.6	1.3	5.7	-28.3	-36.1	-36.4	1.9
Industrial Western Europe	-3.2	-0.8	5.6	-5.7	-3.7	-4.8	15.4	-20.2	0.1
Austria	-5.1	-1.3	9.5	-11.9	-7.0	-0.1	-23.9	-34.8	11.3
Belgium-Luxembourg	-5.7	-6.3	-3.2	-6.0	-26.9	-16.2	70.7	-12.8	1.3
Denmark	-2.0	-0.5	12.1	-20.1	3.4	5.6	36.6	-14.3	-2.5
Finland	-6.0	-0.3	6.5	-17.5	3.8	-4.8	-10.3	-47.7	8.9
France	-2.2	3.5	1.9	-9.2	13.4	-1.9	-4.5	-18.4	6.2
Germany, Federal Republic of	-3.4	-0.6	3.5	-5.1	-9.4	-9.9	24.2	-25.0	1.2
Ireland	-6.5	-5.9	0.9	-1.5	-11.5	8.2	-5.7	-78.7	4.8
Italy	-1.8	1.4	16.4	1.1	-15.6	2.3	21.3	-9.8	-12.0
Netherlands	-9.5	-7.4	21.2	-5.8	-22.6	-27.8	47.0	-31.8	0.3
Norway	4.1	3.5	-10.2	-2.2	3.6	74.7	37.9	-37.3	20.8
Sweden	-4.0	-0.4	-14.8	1.1	-6.4	-14.7	79.6	-40.5	-4.3
Switzerland	-3.7	-3.5	-2.3	-13.6	-8.9	-3.8	19.1	-14.7	5.1
United Kingdom	0.6	2.5	8.5	-4.5	10.6	5.7	42.5	-17.4	—
Japan	-6.5	-4.0	-8.4	-1.2	—	-13.0	-6.1	-12.1	-6.0

Source: IMF, *Direction of Trade*, Washington D.C., December 1982; OECD, *Statistics of Foreign Trade*, Series A, Paris, January 1983.^a Based on imports c.i.f., in US dollars.^b Greece, Portugal, Spain, Turkey and Yugoslavia.

the OECD area from about \$30 billion in 1981 to some \$39 billion in 1982.³³⁰ This imbalance is considerably larger than the \$15 billion forecast in mid-1982, owing mostly to the deterioration in the external position of the United States (table 4.2.6). The current account of the United States had been projected to record a surplus of about \$11.5 billion, but more recent estimates show a deficit of nearly \$9 billion. This turnaround reflects the recovery in imports and reduced export competitiveness. But the current account situation of other western countries also worsened in the second half of the year. In fact, while import demand in some European countries seem to have remained buoyant, export growth slowed more than foreseen, particularly because of the slowdown in OPEC's import demand and the cutbacks in the imports of non-oil developing countries. The current account surplus of the United Kingdom is likely to have been half of the level forecast earlier. The Federal Republic of Germany was expected to move into surplus, but it now appears to have just attained balance. The Federal Republic's export growth, which was rather fast in the first half of 1982, apparently came to a halt in the second half of the year. The French current account deficit probably was some \$3.5 billion larger than the \$8 billion that had been anticipated. The deterioration of the French external position reflects the effects of the relatively expansionary policy pursued up to mid-1982, as well as the loss in French competitiveness.³³¹ By contrast, the current account of Canada improved more rapidly than had been forecast earlier, owing to increased exports, particularly to the United States, and significantly lower imports.

³³⁰ OECD, *op. cit.* (December 1982). As mentioned above, estimates of the Bank of England (*Quarterly Bulletin*, London, September 1982), allowing for the elimination of some sources of statistical discrepancy, suggest that the current account position of this country group may be better than indicated by the OECD estimate. The estimate of the Department of International Economic and Social Affairs of the United Nations (February 1983) points to a deficit of about \$6 billion for the developed market economies in 1982.

³³¹ Chambre de Commerce et de l'Industrie de Paris, *op. cit.*

Despite the large deficits of some major industrial market economies, these countries are not faced with any significant external constraint. The nearly \$9 billion deficit of the United States does not represent more than 0.3 per cent of the country's GDP. Even in France, the \$11.5 billion deficit accounts for some 2 per cent of GDP. The situation is different in some smaller European countries. In 1982, the current account deficit represented nearly 14 per cent of GDP in Portugal, about 6 per cent in Greece and some 4 to 5 per cent in Denmark and Belgium. Turkey and Yugoslavia, which had large deficits in 1979–80, improved their external positions significantly over the last two years (table 4.2.7).

A common characteristic of the current accounts of south European countries is the existence of large trade deficits, which traditionally have been offset by surpluses in services and transfers (in particular, by the surplus in tourism, private transfers and, in the case of Greece, shipping). In the late 1970s, the trade deficits of these countries worsened considerably as a result of the oil price rises; in fact, the oil price effect was more important there than in most industrial countries because of southern Europe's relatively high dependence on imported oil (table 4.2.8). To this terms-of-trade fall must be added, in some cases, the effects of losses in market share.³³² To a large extent, the deterioration in these countries' competitive position reflected high inflation rates not fully compensated for by exchange rate adjustments. This was the case in Turkey and Yugoslavia up to 1980, and more recently in Greece and Portugal.

Moreover, the south European countries have lately registered a decline in their usual surpluses on services and transfers. Emigrants' remittances fell in dollar terms, reflecting both the slowdown of wage growth in

³³² See "The relative performance of south European exports of manufactures to OECD countries in the 1970s: an analysis of demand factors and competitiveness", in *Economic Bulletin for Europe*, *loc. cit.*, chapter 3.

TABLE 4.2.6
Selected OECD countries: current accounts, 1979-1982^a
(Billions of US dollars)

Country	1979	1980	1981	1982 ^b	
				July	Dec.
Austria	-1.0	-1.6	-1.4	-1.2	-0.5
Belgium-Luxembourg	-3.0	-5.2	-5.3	-4.2	-4.0
Canada	-4.2	-0.9	-4.5	-5.8	1.0
Denmark	-2.9	-2.5	-1.9	-2.2	-2.5
Finland	-0.2	-1.4	-0.3	0.2	—
France	5.2	-4.2	-4.7	-8.0	-11.5
Germany, Federal Republic of	-6.0	-16.3	-7.3	2.2	-0.3
Ireland	-1.7	-1.7	-2.2	-1.8	-1.5
Italy	5.5	-9.7	-8.1	-6.5	-5.5
Netherlands	-2.0	-2.6	3.1	7.0	6.3
Norway	-1.0	1.1	2.4	—	0.5
Sweden	-2.3	-4.5	-2.9	-2.5	-3.0
Switzerland	2.4	-0.5	2.6	3.5	3.5
United Kingdom	-1.8	6.7	12.1	8.2	4.5
United States	-0.5	1.5	4.5	11.5	-8.8
Japan	-8.8	-10.7	4.8	6.5	6.5
Other OECD countries	-5.4	-16.6	-21.9	-23.2	-22.1
Total OECD	-27.7	-69.1	-31.0	-15.2	-38.5

Source: OECD, *Economic Outlook*, Paris, December 1982, Tables 28 and 29.

^a Including private and official transfers.

^b OECD estimates.

TABLE 4.2.7
South European countries: trade balances and current accounts, 1979-1982^a
(Billions of US dollars or percentage shares)

Country and item	1979	1980	1981	1982
Greece				
Trade balance	-5.2	-5.7	-5.5	-5.0
Current account	-1.9	-2.2	-2.4	-2.0
(Per cent of GDP)	(-4.9)	(-5.5)	(-6.5)	(-5.8)
Portugal				
Trade balance	-2.6	-4.2	-5.0	-4.9
Current account	-0.1	-1.3	-2.7	-3.3
(Per cent of GDP)	(-0.2)	(-5.2)	(-10.9)	(-14.0)
Spain				
Trade balance	-5.6	-11.6	-10.1	-9.2
Current account	1.1	-5.0	-5.0	-4.0
(Per cent of GDP)	(0.6)	(-2.4)	(-2.7)	(-2.5)
Turkey				
Trade balance	-2.8	-5.0	-4.2	-2.4 ^b
Current account	-1.2	-3.2	-2.1	-1.2 ^b
(Per cent of GDP)	(-1.6)	(-4.8)	(-3.6)	(-1.3)
Yugoslavia				
Trade balance	-7.2	-6.1	-4.3	-2.7
Current account	-3.7	-2.3	-0.9	0
(Per cent of GSP)	(6.0)	(3.5)	(1.2)	—
Total above				
Trade balance	-23.4	-32.6	-29.1	-24.2
Current account	-5.8	-14.0	-13.1	-10.5
TOTAL OECD				
Trade balance	-39.2	-74.3	-28.8	-26.8
Current account	-27.7	-69.1	-31.1	-38.5
(Per cent of GDP)	(-0.4)	(-0.9)	(-0.4)	(-0.5)

Sources: OECD, *Economic Outlook*, Paris, December 1982, tables 29 and 51. For Portugal, D.C.P., *Grandes Opções do Plano para 1983*, Lisbon, December 1982; for Turkey, Ministry of Finance, *Yıllı Ekonomik Rapor* (Annual Economic Report), Ankara, 1982 and Devlet İstatistik Enstitüsü press releases; for Yugoslavia, National Bank of Yugoslavia, *Godišnji izveštaj* (Annual Report) and direct communication to ECE secretariat.

^a Including private and official transfers.

^b January-September. For the full year, the OECD estimates a trade deficit of \$2 billion and a current-account deficit of \$0.8 billion.

TABLE 4.2.8

Developed market economies: fuel imports as a percentage
of total value of exports, 1970, 1975, 1981
(Percentage)

Country and group	1970	1975	1981
Developed market economies	10.5	22.7	30.2
Western Europe	11.2	20.1	26.6
EEC	11.1	19.7	26.1
Greece	20.9	51.5	45.5
Portugal	15.3	30.4	57.6
Spain	26.3	54.6	67.1
Yugoslavia	8.2	23.2	34.6

Source: United Nations, *Monthly Bulletin of Statistics*, New York, December 1982.

the host countries and the appreciation of the US dollar against European currencies. Receipts from tourism also declined (except for Spain), mainly as a consequence of the slow income growth in the industrial countries and of rising prices in southern Europe.

Finally, due to the rise in international interest rates and the increased external indebtedness of these countries,³³³ debt service payments have grown substantially. By the end of 1982, the ratio of payments of interest plus principal to total export earnings (including emigrants' remittances) reached 27 and 23 per cent in Portugal and Yugoslavia respectively, and 35 per cent in Turkey. These ratios compare with 5, 4 and 13 per cent respectively in Portugal, Yugoslavia and Turkey in 1979. Therefore, even those south European countries that have achieved considerable improvements in their external accounts (Turkey and Yugoslavia) remain under heavy pressure from interest payments and repayments of principal. In addition, in the wake of the payments difficulties experienced by Poland and Romania, Yugoslavia has found it more difficult to obtain new loans from the west; hence, the country's financial deficit had to be financed by its foreign exchange reserves. Greece and Portugal have so far managed to obtain credits abroad, but Spain's official reserves declined significantly in 1982. The reserves of Turkey also must have declined, as the current and capital accounts both appear in deficit.

4.2(iv) Policies and outlook

In general, the stance of economic policies in the major industrial countries has been dictated by the objective of lowering the rate of inflation rather than by concerns about the external position. In any case, the tight policies pursued in western countries, by restraining domestic demand and imports, have led to a slowdown in international trade. They also affected the trade and payments situation through the rise in international interest rates. Moreover, the economic policy adopted in the United States contributed to the appreciation of the dollar which, in turn, resulted in a deterioration of the country's competitive position and a further worsening of its current account. However, in the course of 1982, current account considerations seem to have been increasingly present in policy making. In France, economic policy became more restrictive from the

summer of 1982 partly because of the rapid widening of the country's current account deficit. A number of smaller industrial countries, faced with external imbalances and/or fearing losses in competitiveness, tried to improve their competitive positions through currency devaluations. This was the case of Sweden, which devaluated the krona by 16 per cent in October last year, and of defensive adjustments by Finland where a 4.3 per cent depreciation was followed by a further 6 per cent devaluation in the wake of the Swedish one. Also the Norwegian krone was adjusted downwards in the autumn of 1982 (by 3 per cent through a change in the weight of the dollar in the currency basket, and by another 3 per cent through devaluation).

In southern Europe, on the other hand, economic policies have been largely directed at the improvement of external positions. Turkey and Yugoslavia have pursued such policies since 1980, while in Portugal and Greece policies have become more restrictive only recently.

The adjustment policies pursued in Turkey and Yugoslavia included export promotion measures, import restrictions and currency devaluations. In both countries, exchange rate adjustments led to significant improvements in their relative competitive positions. The Spanish peseta also depreciated steadily since mid-1979, and a further 8 per cent devaluation took place at the end of 1982. While currency depreciation seems to have been an important factor in Spain's export expansion, other factors also contributed. In particular, the structure of Spanish exports has changed considerably, partly as a result of the increasing role of foreign capital in the export sector.³³⁴ From 1979 to 1982, Greece and Portugal apparently have become less competitive vis-à-vis their European trading partners. In fact, in this period the depreciation of their currencies against the dollar was not sufficient to compensate for the appreciation of the dollar against other European currencies. Recent devaluations in both countries are likely to have improved their competitive positions in European markets.³³⁵

The impact of national policies on international trade and external positions in 1983 is difficult to foresee. National forecasts generally tend to overestimate a country's export growth and underestimate its imports. In its semi-annual forecasting exercise, the OECD attempts to eliminate this "export optimism" from the trade projections.³³⁶ According to the OECD's most recent forecasts, which are based on the assumption of unchanged nominal oil prices from the end of 1982,³³⁷ international trade will grow only moderately in 1983. However, the decline in oil prices is likely to improve this outlook. Exports of major OECD countries are forecast to grow less than 1 per cent – faster growth in exports from Japan, Canada and France being offset by declining exports from the United States (table 4.2.9). The export growth of the smaller industrial west European countries is forecast at between 2 and 4 per cent. Similar rates of growth are forecast for Portugal, Spain and Greece; but the recent devaluations in Spain

³³⁴ *Economic Bulletin for Europe*, loc. cit., chapter 3.

³³⁵ In addition to depreciation under a controlled float, Portugal devalued by 9.4 per cent in June 1982 and Greece by 15.5 per cent in January 1983.

³³⁶ The OECD secretariat uses the INTERLINK model to overcome this incompatibility of national assumptions on external economic developments: the member countries' import projections are used as inputs to the model, which then yields a set of mutually consistent import and export projections for all countries.

³³⁷ OECD, *Economic Outlook* (32), Paris, December 1982. These forecasts are also based on the assumption of unchanged actual and announced policies and exchange rates from the date forecasts were made (November 1982).

³³³ In 1982, the foreign debt outstanding represented 60 per cent of GDP in Portugal, 45 per cent in Yugoslavia and some 25 per cent in Turkey.

TABLE 4.2.9

Developed market economies: export and import growth, current account forecasts for 1983^a
(Percentage change and billions of US dollars)

Country and group	Exports	Imports	Current account
	Percentage change		(\$ billion)
North America	-2.0	7.5	-30.0
Canada	3.5	5.0	1.0
United States	-4.0	8.0	-31.0
Industrial western Europe	1.5	1.0	-10.5
Austria	2.0	4.0	-1.0
Belgium-Luxembourg	3.0	2.0	-2.5
Denmark	3.5	0.5	-2.0
Finland	1.0	-1.0	—
France	2.0	—	-8.0
Germany, Federal Republic of	1.0	—	—
Ireland	5.5	4.0	-1.5
Italy	2.0	2.0	-4.0
Netherlands	1.0	—	7.0
Norway	—	4.0	-0.5
Sweden	5.5	-0.5	-2.5
Switzerland	-1.0	-1.0	4.0
United Kingdom	—	4.0	0.5
Southern Europe	6.0	2.0	-9.7
Greece ^b	2.0	2.5	-3.0
Portugal	3.0	3.0	-3.0
Spain ^c	4.0	2.5	-5.0
Turkey	13.5	7.5	-0.5
Yugoslavia ^d	9.0	-5.0	1.8

Source: OECD, *Economic Outlook* (32), Paris, December 1982. Regional averages calculated by the ECE secretariat.

^a OECD forecasts.

^b Forecast made before the devaluation of January 1983.

^c Forecast made before the devaluation of December 1982.

^d National forecast.

and Greece are likely to generate a more rapid expansion in the exports of these two countries. In Turkey, exports are expected to continue to register a two-digit growth. Imports of the developed market economies will probably increase faster than exports. The United States' import demand is projected to rise by 8 per cent and that of industrial western Europe by about 1 per cent. The imports of the United Kingdom and Italy are anticipated to increase by 4 and 2 per cent respectively, while those of Germany and France are expected to almost stagnate. The growth of imports in Greece, Portugal and Spain is forecast at some 3 per cent, while Turkish imports will be stimulated by the strong rise in exports. In Yugoslavia further import cutbacks are expected. In some smaller industrial countries, namely Belgium, Denmark, Finland, Ireland and Sweden, the growth rate of imports may be lower than that of exports, thus implying an improvement in their current accounts. But the aggregate external position of the major OECD countries is likely to deteriorate further in 1983. In particular, the deficit of the United States is projected to widen: domestic demand will probably continue to recover, but the effects of the recent loss of competitiveness will still be felt in 1983. The external position of the United Kingdom is also anticipated to deteriorate, whereas that of France is expected to improve, though the French deficit is likely to remain large. No significant changes are projected in the current account balances of the south European countries. In fact, it is probable that an improvement in the real foreign balances of these countries will be offset by a rise in interest payments stemming from the recent increase in external debts. In Yugoslavia, economic policy for 1983 is directed towards the achievement of a current account surplus of \$1.8 billion (with \$1.5 billion of this in convertible currencies) in order to replenish foreign exchange reserves.

4.3 EASTERN EUROPE AND THE SOVIET UNION

Developments in the external sector of the European centrally planned economies in 1981 and 1982 exhibit a number of striking features which distinguish this period from the immediately preceding one and also, in some aspects, from the experiences of other country groups in the world economy. Partly in consequence of strong policy measures and partly owing to developments beyond their control (including sharp constraints on the availability of finance), the countries of eastern Europe recorded a notable improvement in their trade and current account balances in these two years, with a turnaround from current account deficit to surplus in 1982. There was also a substantial improvement in the Soviet Union's trade surplus in 1982, after a deterioration in 1981. In eastern Europe, the external balance gains were based mainly on a sharp reduction in import volume, in the face of deteriorating terms of trade, whereas in the case of the Soviet Union a favourable terms-of-trade experience permitted an improvement in the external position even while import volume continued to rise substantially. The volume of exports from both eastern Europe and the Soviet Union nonetheless expanded significantly in 1982, in contrast to the shrinking of export volume elsewhere in the world economy.

These developments will be examined in some detail in this section. The first part reviews the overall trends in trade volumes, prices and terms of trade in the last two years. In the second and third parts, changes in trade among the CMEA countries and in trade with the market economies will be examined separately. The fourth and fifth parts will be devoted to the movements in the trade balances and to a discussion of trade policy stances and the near-term outlook. East-west trade will be dealt with in greater detail in section 4.4 below.

4.3(i) Trade volumes, prices, terms of trade

The rate of growth of exports from the European centrally planned economies, measured in volume terms,³³⁸ which has hovered in the 5–10 per cent per annum range for much of the 1970s, had begun to slow significantly in 1980 and slackened to barely 1 per cent in 1981 (see table 4.1.2 in section 4.1 above for the longer perspective). In 1982, there was a significant pickup with an estimated volume growth of 5 per cent. Import volume growth, which had shown rather wider year-to-

year swings (3 to 14 per cent) in the 1970s, had already begun to drop in 1979; after a pickup to 4 per cent in 1980, it slowed to 1 per cent in 1981 and ceased – for the region as a whole – in 1982. The group aggregates, however, conceal quite divergent changes in the trade experience of the east European countries, on the one hand, and that of the Soviet Union on the other (see table 4.3.1). As noted in last year's *Survey*, the domestic structure and the impact of external developments on the domestic economy differ so much between the Soviet Union and the smaller countries of the group as to vitiate the analytical usefulness of an overall regional aggregate. The recent trade experience of eastern Europe and the Soviet Union will therefore be reviewed separately.

The countries of *eastern Europe*, as a group, appear to have fully shared in the slowing of world trade growth in 1980 and 1981, with *export volume* growth declining to 2 per cent in both of these years, as against a five-year average of well over 6 per cent in the second half of the 1970s.³³⁹ In 1982, export volume growth for the group is an estimated 4 per cent which, if eventually confirmed by fuller data, would constitute a substantial achievement in the light of prevailing tendencies in the world economy.³⁴⁰

A look at the underlying country data suggests, however, that the seeming conformity of the east European export performance in 1980–1981 to world economic trends may be more apparent than real, since the group averages for these years appear to be influenced more strongly by extreme events in individual countries than by common tendencies (see table 4.3.2). This is particularly true for the performance in 1981, which was on the one hand depressed by the collapse of Polish exports (a supply side event with few connections to international demand factors), and on the other hand buoyed by an extraordinary growth of export volume from Romania (based, it seems, on what may well be a one-time event – a tripling of machinery exports to the Middle East). In 1982, again, aggregate performance is strongly affected by events in the same two countries, but with reversed signs: the incipient Polish recovery (which became significant for exports only in the second part of the year and is therefore likely to provide an upward impetus to export volume also in 1983) buoyed east European export volume growth while the reversal in

³³⁸ This review will be conducted in terms of *volume* changes wherever this is feasible, even though this involves a substantial amount of estimation in the case of the data for the last year. Data on changes in trade *values* are shown in the tables for reference purposes. For the sake of comparability with other value data in this *Survey* and other international data sources, those shown here generally reflect values measured in US dollars even for trade flows largely conducted in other currencies (e.g. intra-CMEA trade). In consequence, value changes will differ – often substantially – from those shown in national sources. Owing to the strong appreciation of the dollar in 1981 and 1982, the change in the year-to-year variations of trade value measured in dollars is so different from those observed in earlier years, and so differently related to the changes in trade volume, as not to be very helpful to the comprehension of real trends. This caution applies *a fortiori* to the interpretation of changes in the dollar value of trade flows originally measured in terms of roubles, especially since price trends in the rouble trade area differ substantially from those observed elsewhere in the world economy.

³³⁹ Both the 1980 and 1981 export volume growth figures differ substantially from those reported in last year's *Survey* and in the *Economic Bulletin for Europe*, vol. 34, no. 4 (1982). While the 1981 export volume growth reported there was, of necessity, a preliminary estimate only, the change in the 1980 figure (reduction from 4 per cent to 2 per cent) stems from significant revisions in the official Romanian export value data.

³⁴⁰ Attention may be drawn to a potentially considerable gap between the present estimate of 1982 export volume growth, which reflects estimates of volume *increases* of about 4 per cent in exports to both the socialist and the (developed and developing) market economies for the whole year of 1982, and the estimate of a 5 per cent *decline* for the period January–September 1982 in developed market economies imports from eastern Europe (see table 4.4.1 below, based on western data). The difference in geographical coverage is not likely to be a major issue here, since in value terms exports to developing and developed market economies appear to have grown at about the same rate in 1982 (see table 4.3.7 below). The difference in time coverage, however, may account for part of the gap, in particular since Polish exports to the west picked up substantially in the last quarter of the year.

TABLE 4.3.1

Eastern Europe and the Soviet Union: volume of foreign trade by direction, 1981–1982
(Annual percentage change)

	Year	Exports to:			Imports from:		
		World	Socialist economies	Market economies	World	Socialist economies	Market economies
Eastern Europe	1981	2	—	3	—5	—1	—11
	1982	4	4	4	—6	—2	—14
Soviet Union	1981	—	—1	4	8	5	11
	1982	5	—3	15	8	9	6

Source: As for table 4.3.3.

TABLE 4.3.2

Eastern Europe and the Soviet Union: volume of foreign trade, by country, 1976–1982
(Annual percentage change)

	Exports				Imports			
	1976–1980	1980	1981	1982 ^a	1976–1980	1980	1981	1982 ^a
Bulgaria	12.8	12	8	5	3.2	4	9	1
Czechoslovakia	6.3	5	2	5	2.9	—2	—7	2
German Dem. Rep. ^a	5.3	1	10	7	5.1	4	—	—3
Hungary	7.0	1	3	5	3.9	—1	—	—2
Poland	4.0	—4	—19	9	1.7	—2	—17	—16
Romania ^a	5.7	4	14	—7	8.4	6	—7	—24
Eastern Europe	6.4	2	2	4	2.3	1	—5	—6
Soviet Union	4.8	2	—	5	5.7	7	8	8
Eastern Europe and the Soviet Union	5.7	2	1	5	4.7	4	1	—

Source: National statistics or secretariat estimates based on national value data and international price data (see note to table 4.3.3).

^a Secretariat estimates.

Romanian exports depressed it.³⁴¹ If these two countries with their rather specific problems are taken out of the east European aggregate, export volume growth of the remaining four countries fluctuates in the 5–6 per cent range in all three years, only slightly below the average for the late 1970s. While the elimination of extreme or unique cases is a dangerous procedure in the quest for a “truly representative” measure, it does suggest that factors other than world demand trends have had a strong influence in shaping the group’s export performance. This issue will be taken up again below.

Imports into the east European countries, the growth of which in volume terms had already begun to decelerate sharply in the second half of the 1970s, declined by 5 per cent in 1981 and by a further 6 per cent in 1982. In contrast to the wide variations in country performance on the export side, all of the east European countries except Bulgaria experienced an absolute fall in real imports in the last two years (table 4.3.2). In most countries, the cut in import volume – measured from 1980 levels – was in the 3–5 per cent range, but in Poland

and Romania it exceeded 30 per cent in 1982. In terms of their regional origin, east European imports from the socialist countries dropped by about 1 per cent in 1981 and by another 2 per cent in 1982, whereas those from the (developed and developing) market economies declined by 11 per cent and 14 per cent, respectively, in the last two years (see table 4.3.1).³⁴² In 1982, all countries except Bulgaria and Czechoslovakia appear to have reduced the volume of their imports from other socialist countries, while all east European countries seem to have reduced real imports from the market economies, though none as sharply as Poland and Romania (29 per cent and 33 per cent, respectively).

The terms of trade of the east European countries, all of which are at present net importers of fuels and energy, have been deteriorating since the mid-1970s. This adverse movement has accelerated in 1981–1982, owing mainly to the delayed absorption of the 1979–1980 oil price changes into the price structure of intra-CMEA trade (section 4.3(ii) below), although there was also

³⁴¹ Information on the details of Romanian trade performance in 1982 is still quite scarce. However, two possible causes of the downturn in export volume suggest themselves: (a) the presumed one-time nature of the machinery export upswing noted above, and (b) the apparent partial withdrawal of Romania from its petroleum import/oil products export operations under the 1982 oil market conditions, evidence for which can be found in the limited data on Romanian foreign trade published in IMF, *International Financial Statistics* (recent issues).

³⁴² It should be noted that for reasons of data availability the partner country grouping in this section follows the practice of the national statistical sources, which differs from the breakdown usually employed in United Nations publications. In particular, “socialist countries” here includes Yugoslavia, in addition to the European and non-European CMEA member countries and other Asian centrally planned economies, whereas in section 4.4 below Yugoslavia is grouped with the market economies. The term “market economies” as used in this section covers both developed and developing economies.

TABLE 4.3.3

Eastern Europe and the Soviet Union: change in foreign trade value, volume, unit values and terms of trade, by major partner regions, 1979–1982
(Per cent)

	Exports				Imports			
	1979	1980	1981	1982	1979	1980	1981	1982
<i>Eastern Europe</i>								
<i>Total trade</i>								
Value ^a	17.1	12.2	0.5	3.5	13.1	12.2	-3.1	-4.1
Volume	8	2	2	4	2	1	-5	-6
Unit values ^a	9	10	-1	-1	11	11	2	3
Terms of trade	-2	-1	-3	-4	..	..	..	..
<i>of which:</i>								
<i>Trade with socialist countries</i>								
Value ^b	10.8	5.9	8.4	11.1	7.5	8.8	11.1	8.8
Volume	7	-2	—	4	2	—	-1	-2
Unit values ^b	4	8	8	7	6	9	12	10
Terms of trade	-2	-1	-4	-3	..	..	..	..
<i>Trade with developed market economies and developing countries</i>								
Value ^a	25.2	22.0	0.1	-3.2	18.5	15.6	-13.1	-19.8
Volume	2	8	3	4	-1	2	-11	-14
Unit values ^a	22	13	-3	-7	20	14	-2	-7
Terms of trade	2	-1	-1	-1	..	..	..	..
<i>Soviet Union</i>								
<i>Total trade</i>								
Value ^a	23.6	18.2	3.8	8.3*	13.9	18.6	6.8	7.1*
Volume	0.6	1.6	0.4	5	1.0	7.3	8.2	8
Unit values ^a	22.8	16.3	3.4	3	12.7	10.5	-1.3	—
Terms of trade	8.9	5.3	4.8	3	..	..	..	..
<i>of which:</i>								
<i>Trade with socialist countries</i>								
Value ^b	11.2	13.9	15.9	9.1*	3.4	10.3	13.1	16.2*
Volume	3.2	4.0	-1.1	-3	-1.2	3.4	4.9	9
Unit values ^b	8.2	9.5	17.2	12	4.6	6.7	7.8	7
Terms of trade	3.4	2.7	8.7	5	..	..	..	..
<i>Trade with developed market economies and developing countries</i>								
Value ^a	34.4	22.2	2.8	8.6*	23.6	27.9	12.2	-1.1*
Volume	-3.3	-1.4	4.0	15	4.6	11.7	10.6	6
Unit values ^a	40.1	23.9	-1.1	-6	18.2	14.5	1.4	-7
Terms of trade	18.5	8.2	-2.5	1	..	..	..	..

Source: As for tables 4.3.7.

Note: Total value and unit value changes for total trade and for trade with the market economies are expressed in terms of US dollars, whereas value and unit value changes in trade with socialist countries reflect value measures in transferable roubles. All unit value and terms-of-trade indices were derived from the value and volume figures. Apparent inconsistencies between the four indicators for any given year reflect separate rounding after calculation from unrounded numbers. All figures for 1982 are secretariat estimates.

Eastern Europe: Volume indices for total trade from national statistical sources have been aggregated with weights reflecting the individual countries' shares in the total trade of the region in 1975, measured in US dollars. Volume indices for trade with socialist countries and with market economies were obtained by deflating national data (supplemented by secretariat estimates) on the value of trade in the two markets in five major commodity groups by means of Hungarian, Polish and UN price indices. This exercise was conducted in terms of transferable roubles for trade with socialist countries and in US dollars for trade with market economies; deflated commodity group data were aggregated for each country and for eastern Europe in terms of their value in 1975 transferable roubles or US dollars, respectively.

Soviet Union: Volume indices for total trade, trade with socialist countries and trade with market economies from USSR Ministry of Foreign Trade, *Vneshniaia torgovlia SSSR 1922–1981*, Moscow, 1982. Separate indices for developed and developing market economies have been aggregated in terms of the value of these flows at 1975 US dollars in order to obtain the index for all market economies.

* In terms of US dollars.

* In terms of transferable roubles.

some deterioration in trade with the market economies (see table 4.3.3).

Data on the changes in foreign trade by commodity groups in 1982 are available only for some countries (Bulgaria, Czechoslovakia, Hungary and Poland), and only at current prices (see table 4.3.4, where these are shown together with 1981 figures for the remaining east European countries). While these data can be interpreted only with caution, since the current value trends in the various commodity groups reflect different mixtures of eastern and western price trends, a number of broad or country-specific features may be noted. On the export side, machinery exports increased faster than total exports – and probably increased in real terms – in all east European countries except Poland in 1982. The large contribution of machinery exports to the Romanian export volume upswing in 1981, already referred to above, is evident in these figures. The 1982 decline in

Bulgarian exports of fuels, minerals and metals is of interest, since this probably reflects a drop in the exports of petroleum products which in past years have provided a substantial portion of the Bulgarian convertible currency surplus. The negligible rate of increase in 1981 in the value of Romanian exports in this commodity group, indicating a decline in real terms, reflects the adjustment in that country's petroleum processing activity noted earlier (as does the decline on the import side). Finally, the 65 per cent increase in Poland's 1982 exports in this group is clearly the main support of the revival of Polish exports. On the import side, the notable feature is the generally weak expansion, if not decline, in the value of machinery imports: in all countries except Bulgaria this indicates a fall in real terms in the commodity group which generally has the largest share in total imports. This reflects the trends in investment policy in eastern Europe noted elsewhere in this Survey.

TABLE 4.3.4

Eastern Europe and the Soviet Union: trade in main commodity groups, 1981 or 1982
(Percentage change of current value over same period of preceding year)

Country	Year	Machinery and equipment	Fuels, metals, minerals	Raw materials etc.	Foodstuffs	Consumer goods	Total
<i>Exports from:</i>							
Bulgaria	1982 ^a	10.8	-16.5	20.0	12.4	16.9	8.4
Czechoslovakia	1982 ^b	11.7	1.1	6.0	21.9	16.9	10.9
German Dem. Rep.	1981	10.0	31.0	22.0 ^c	..	9.9	15.4
Hungary	1982	15.1	57.7 ^d	0.1	6.8	3.0	8.4
Poland	1982	8.4	65.3 ^d	3.4	12.8	-5.9 ^e	12.0
Romania	1981	28.9	4.2	5.0	0.8	7.4	10.6
Soviet Union	1981	-0.2	23.2 ^d	6.8	21.2	-17.1	15.1
<i>Imports to:</i>							
Bulgaria	1982 ^a	11.1	12.6	-1.3	-18.5	10.2	8.5
Czechoslovakia	1982 ^b	3.7	13.8	-4.4	6.6	9.2	6.6
German Dem. Rep.	1981	10.1	6.2	1.3 ^c	..	3.8	5.9
Hungary	1982	4.7	36.1 ^d	-2.4	-20.3	1.0	3.4
Poland	1982	-21.0	13.6 ^d	7.3	-36.1	-0.8 ^e	-10.5
Romania	1981	-9.6	-8.8	-10.1	9.1	-5.6	..
Soviet Union	1981	5.5	42.1 ^d	9.1	35.5	26.2	18.4

Sources: National statistical publications. Data are only roughly comparable across countries owing to differences in the definition of commodity groups and to the fact that growth rates are expressed in terms of national currencies.

Commodity groups: Machinery and equipment includes means of transport; fuels, metals and minerals includes electricity (wherever fuels and electricity alone are shown, metals and minerals are included in the raw materials group); raw materials etc. includes industrial semi-fabricates, chemicals, construction materials; foodstuffs includes raw materials for food industry, other agricultural food products, live animals, and feedstuffs; consumer goods refers to industrial consumer goods except food products and means of transport.

^a January–September.

^b January–June.

^c Including foodstuffs.

^d Fuels and electricity only.

^e Products of light industry.

TABLE 4.3.5

Eastern Europe and the Soviet Union: foreign trade, planned and actual, 1982–1983
(Annual growth rates, in percentage)

	Plan 1982	Actual 1982						Plan 1983		
		Value		Volume				Turnover	Exports	Imports
		Turnover	Exports	Imports	Exports	Imports	Exports			
Bulgaria	4	..	..	5*	5*	5*	1*	8	..	..
Czechoslovakia	..	4	9	5	5	5*	2*	..	..	..
German Dem. Rep.	15	..	..	8*	1*	7*	-3*	13	..	..
Hungary	..	6–8	2–3	-2	-3	5*	-2*	..	7	0
Poland	..	..	..	6	-16	9	-16	11	..	..
Romania	14	..	..	-10	-24	-7	-24	14	18	8
Soviet Union	..	..	..	8*	7*	5*	8*	2*	..	..

Source: Plan targets from national plan documents, explanatory speeches and other official announcements; 1982 volumes as for table 4.3.4, values as for table 4.3.7.

Note: Value changes are measured in terms of US dollars.

The contrast between export and import value changes for machinery would appear to indicate that much of the east European export increase may have gone to the market economies, perhaps developing countries (barring a substantial upswing in Soviet machinery imports, for which 1982 data are not yet available). There were also steep reductions in value, presumably reflecting even sharper falls in real terms, in the imports of *foodstuffs and agricultural products* into a number of east European countries. Imports of *raw materials and semi-fabricated goods* also turned down in a number of cases. A substantial proportion of these imports traditionally come from western sources, and similar trends can be observed in western export data (section 4.4 below). Finally, rates of growth of the value of *fuel* imports in 1982 are generally (except for Hungary) well below the known rate of 1982 rouble price increases for fuels (about

20–25 per cent), thus indicating a significant decline in real imports.

In their broad directions, if not always in their specific magnitudes, the contrasting changes in export and import volume and the changes in the commodity structure of trade described above were in accordance with the policy intentions of the east European countries in the foreign trade sphere. While only very limited information is generally available on *plan targets* for foreign trade (see table 4.3.5), and the available figures are often difficult to interpret,³⁴³ it is evident both from

³⁴³ In particular, it is rarely specified whether the announced foreign trade plan targets refer to changes in nominal trade *value* or to changes in *volume* terms. Among the east European trade targets shown in table 4.3.5, those for the German Democratic Republic and Romania are likely to refer to value growth, but this is by no means certain.

these data and from the policy discussions surrounding the planning process in the east European countries that a significant adjustment to pressures on the external balance was part of the plan intentions for the last two years. It is also evident, however, that in most of the east European countries actual developments, especially in 1982, also reflect to a substantial degree emergency adjustments to unanticipated developments in trade and payments. These necessitated constraints on imports going well beyond the original intentions. Apart from the long-term adverse trends in the terms of trade, which at this time most strongly affect the relationship between the east European countries and the Soviet Union, the main energy and raw material supplier of the region, the pressures for adjustment emanated mainly from factors affecting the east-west economic relationship which have been discussed in section 4.1 above or will be taken up in greater detail below in section 4.4. The combination of structural adjustment in the east European economies and of emergency belt-tightening, which is reflected in the trade performance reviewed above, resulted in a sharp turnaround in the east European trade balance, from a \$2.6 billion deficit in 1981 to an estimated \$4 billion surplus in 1982. This will be examined in section 4.3(iv) below.

The foreign trade experience of the *Soviet Union*, as noted earlier, followed a somewhat different path in the last two years. Soviet export volume had been growing at rather low rates in recent years, averaging less than 1 per cent for the period 1979–1981, which compares with an average growth rate of some 6 per cent annually (with wide fluctuations) for 1970–1978. The slowdown, which began in 1979, of course coincides with the last oil price increase and in part reflects the reaction of the volume of Soviet petroleum and petroleum product exports to this price change.³⁴⁴ After having come to a virtual standstill in 1981 (mainly owing to a sharp drop in the early part of that year), Soviet exports registered a vigorous increase – estimated at about 5 per cent in volume terms – in 1982. As may be noted in table 4.3.1, this upturn conceals opposing changes in the volume of exports to the two market areas, an estimated 15 per cent increase in exports to the market economies more than compensating for an estimated 3 per cent decline in exports to the socialist countries. In both cases, again, changes in the volume of fuel exports are likely to have strongly affected the totals. In the case of Soviet trade with the market economies, this supposition is supported by the trade partner statistics reviewed in section 4.4 below (see especially table 4.4.3). As regards exports to the socialist economies, an apparent reduction in the volume of east European fuel imports was noted above (see also table 4.4.3).

The volume of Soviet imports, on the other hand, has continued to grow at the substantial pace observed since 1980, with an estimated increase of almost 8 per cent in 1982. A rise of the same magnitude in 1981 reflected mainly very large increases in the volume of imports of agricultural products and industrial consumer goods from the market economies (estimated volume increases of 36 per cent and 44 per cent, respectively).³⁴⁵ All other commodity groups showed only small increases, or declines, in real terms in 1981 (for changes in value terms, see table 4.3.3). In 1982, machinery and manufactures imports probably had a more significant

share in the rise in import volume, and agricultural products a correspondingly smaller one. In the absence of data on the commodity structure of Soviet trade in 1982, this hypothesis can be supported by the observation that socialist trade partners appear to account for the larger part of the import volume increase in that year, probably in part a reflection of the recovery of Polish exports. A similar conclusion, however, can also be drawn from the data on east-west trade analyzed in section 4.4 below (see table 4.4.3).

The overall *terms of trade* of the Soviet Union continued to improve in 1981 and 1982, although at a reduced rate compared with the preceding two years. This reflected the price adjustments in the intra-CMEA market. In trade with the market economies there was some deterioration in 1981, which appears to have been partially offset in 1982 (see table 4.3.3). These terms of trade gains combined with the upswing in export volume to produce an improvement in the Soviet Union's overall trade balance, from over \$6 billion in 1981 to almost \$8 billion in 1982.

4.3(ii) Trade among centrally planned economies

Although reference has been made at various points in the preceding discussion to the two major market areas in which the European centrally planned economies have commercial exchanges – namely, the centrally planned economies and the (developed and developing) market economies – it may be useful to expand somewhat on recent developments in the two markets. It should be noted at the outset that trade among socialist countries is not identical with the *intra-area* trade of the east European countries and the Soviet Union. Nonetheless, the trends noted here can be taken as broad approximations of those in the *intra-area* trade of the eastern part of the ECE region.³⁴⁶

In 1981, the trade of the east European countries and the Soviet Union with socialist countries registered a small (1 per cent) decline in volume, mainly because of the contraction in Polish deliveries and takings. The partial recovery of Polish exports in 1982, on the other hand, provided an impetus to the growth of intra-socialist trade.³⁴⁷ The data for the last two years indicate a continuation of the past trend towards an increasing concentration of intra-regional exchanges on trade between the east European countries jointly, on the one hand, and the Soviet Union on the other. East European exports to the Soviet Union (Soviet imports) rose by an estimated 3 per cent in volume in 1981 and by some 7 per cent in 1982, while east European imports (Soviet exports) declined by about 1 per cent in 1981 and seem to have dropped by perhaps another 3 per cent in volume in 1982. The volume of exchanges among the east

³⁴⁴ In 1981, fuel and energy exports accounted for 50 per cent of the value of Soviet exports, with a 44 per cent share in the value of exports to socialist countries and a share of 57 per cent in exports to market economies.

³⁴⁵ Secretariat estimates, based on data used for table 4.3.3.

³⁴⁶ Trade with *socialist countries* includes exchanges with the non-European CMEA member countries (Cuba, Mongolia, Vietnam), other Asian centrally planned economies, and Yugoslavia in addition to the *intra-area* trade of the east European countries and the Soviet Union. The use of this aggregate is largely dictated by the availability of data for the last year under discussion. However, *intra-area* trade proper accounts for the bulk of this total (92 per cent in the case of eastern Europe and 79 per cent in the case of the Soviet Union in 1981, the last year for which complete data are available).

³⁴⁷ In spite of the concentration of Polish trade recovery in *intra-regional* trade, that country's exchanges with socialist countries were still some 3 per cent below the 1980 level in 1982, and some 12–14 per cent below the previous peaks (of 1978–1979), all measured in real terms. This probably indicates a considerable potential for further recovery, especially if political constraints on its western trade should force Poland to concentrate future trade development on the CMEA area.

European countries, by contrast, has continuously declined during this period.³⁴⁸

The contrast between the east European export and import volume changes in trade with the Soviet Union, which has steadily increased over the past few years, reflects the efforts of the east European countries to adjust to the rise in the relative cost of raw materials and fuels emanating from the world market, as mediated through the intra-CMEA price determination system. As noted in section 4.1, these are being absorbed into the CMEA price structure with a time lag, in consequence of which the terms of trade of the raw material importers of the group were still deteriorating sharply in 1981 and 1982. In 1981, prices in intra-CMEA trade increased by about 17 per cent for Soviet exports and by about 8 per cent for Soviet imports, measured in terms of transferable roubles (see table 4.3.3). Price movements in 1982 appear to be only slightly less adverse for the east European countries: increases of about 12 per cent in Soviet export prices and 7 per cent in Soviet import prices (again in terms of transferable roubles, as estimated from Hungarian data).³⁴⁹ The above figures clearly indicate the magnitude of the adjustment challenge which confronts the east European countries as the world market shocks of the turn of the decade are absorbed into the CMEA trade system.

The responses of domestic economic policy in these countries have been discussed in chapter 3 above. The data on the behaviour of trade volume flows presented here indicate that the external adjustment (as evidenced in the relationship between stepped up export and decelerating or negative import volume growth) has been substantial and rapid. It has in fact been large enough to make a significant contribution towards the re-establishment of balance in the trade accounts of the region, though clearly a considerable gap still remains to be closed.³⁵⁰

4.3(iii) Trade with market economies

While trends in trade among the centrally planned economies themselves thus displayed a certain continuity, there were sharp changes between 1980 and 1981 in

trade with the market economies. This reversal, which was accompanied by pronounced differences between the east European and the Soviet experience in these outside markets, continued through most of 1982.

In the case of the *east European countries*, trade with the market economies had been the focus of strenuous external adjustment efforts since the mid-1970s, following the increasingly imbalanced (credit-based) spurt of trade expansion at the beginning of the decade. Though only partially successful, these efforts did uphold *export growth* to the market economies while maintaining some import expansion through 1980. In 1981, however, this growth faltered for a number of reasons. While supply side factors, notably in Poland (where a sharp contraction in the production of exportables resulted in a 27 per cent drop in the value of exports), played a large role in this development, the weakening of demand in the market economies also must have contributed, as the value (and volume) of deliveries from a number of other centrally planned economies also declined. The fact that exports to *developed* market economies showed an absolute decline in value terms large enough to imply a decline also in volume in all of the east European countries but the German Democratic Republic, whereas exports to *developing* countries increased – at rates ranging from 7 to 35 per cent, which in 1981 must have meant very high rates of volume growth – also argues for a strong impact of demand side forces, since the import demand of the developing countries remained quite strong in that year. Clearly the weakening of demand in the developed countries had led to active efforts to find alternative export outlets in the third world.

Owing to the coincidence of declining export earnings with sharply rising deficits on invisibles, caused by the rise in interest rates, this fall in exports was almost perforce translated into a sharp cutback in *imports* from the convertible currency area. The value of imports from the market economies declined by more than 13 per cent in 1981, with a slightly smaller (11 per cent) drop in volume. While Poland and Romania, the countries most seriously affected by debt problems, had to make the sharpest reductions (36 and 16 per cent in value), most countries of the group shared in the downturn. Policy statements from the east European countries indicate that attempts were made to impose priorities in the curtailment of import flows, with the deepest cuts to be taken in imports of investment goods in order to help maintain imports of food and production inputs. Nonetheless, at least in Poland and Romania the order of magnitude of import reductions was severe enough to affect domestic production.

While in *volume* terms there may have been some slight recovery in exports to the market economies in 1982 (growth of slightly over 4 per cent), this gain was offset by price movements and export *value* declined further. Coupled with a further tightening in the east European countries' financial situation, described elsewhere in this chapter, this necessitated further import cutbacks which, as noted earlier, affected all countries of the group in 1982 (see table 3.3.7 for country data in value terms). For eastern Europe as a whole, the volume of imports from the market economies appears to have fallen some 14 per cent.

In the trade of the *Soviet Union* with the market economies, rather different trends prevailed. Soviet *exports*, which in 1980 had risen very rapidly in value terms (mainly as a result of higher oil prices) but had contracted in volume, increased by 3 per cent in value in 1981. Given the price changes in that year, this meant a 4 per cent increase in volume. The value data by direction (table 3.3.7) suggest that all of this came from increased exports to developing countries, a conclusion

³⁴⁸ Value growth in these trade flows has lagged behind intra-CMEA price advances since 1979, and the *volume* of exchanges in 1982 is an estimated 9–10 per cent below the 1978 level. See table 4.3.7 for growth rates in *value* terms. The absolute decline in dollar terms shown there for 1981, however is an effect of the dollar appreciation of that year; in rouble terms there was an increase of about 2 per cent.

³⁴⁹ The changes in aggregate east European import unit values in both years are somewhat lower than those for Soviet exports, while the rise in the export prices was generally of the same order of magnitude as that of Soviet import prices; this reflects the effect of intra-east European trade (see table 4.3.3). As is to be expected, the impact of changes in fuel prices accounts for the bulk of the difference between east European export and import price movements. Again on the basis of Hungarian data, the rouble price of fuels and energy in intra-CMEA trade increased by 25 per cent in 1981 and by another 23 per cent in 1982. The price of petroleum is nonetheless still some 25 per cent below 1982 world market price levels if compared through the Soviet rouble/dollar exchange rate, and lower yet from the perspective of countries (such as Poland) that have established a lower rouble/dollar cross-rate (though the legitimacy of these comparisons would appear to depend on whether such cross-rates properly reflect opportunity costs in their rouble and dollar export trade). Increases in the rouble oil price of some 20 per cent appear to be scheduled for 1983.

³⁵⁰ The emergence of a substantial deficit in intra-socialist trade in 1980 and 1981 is largely a consequence of the Polish economic crisis and the disruption of trade flows which this occasioned. The east European countries have been in deficit in their trade with the Soviet Union since 1975, by amounts ranging from 5 to 9 per cent of their exports. While the aggregate deficit rose sharply after 1979, the change has been relatively small if Poland is excluded. As a percentage of exports, the deficit has declined from 6 per cent in 1979 to 4 per cent in 1981 and, apparently, also in 1982.

TABLE 4.3.6

Eastern Europe and the Soviet Union: trade balances, 1979–1982
(Billions of US dollars)

Country group	1979	1980	1981	Jan.-Sept.		1982 ^a
				1981	1982	
<i>Eastern Europe</i>						
World	-5.1	-5.8	-2.6	-1.5	2.8	4.0
Socialist countries	-0.1	-1.6	-3.1	-1.2	-0.9	-1.5
Developed market economies	-5.4	-3.8	-2.9	-2.3	0.9	1.1
Developing countries	0.4	-0.4	3.4	2.0	2.8	4.3
<i>Soviet Union</i>						
World	6.9	8.0	6.2	1.3	4.2	7.6
Socialist countries	3.3	5.0	6.2	3.6	2.3	4.1
Developed market economies	-1.1	0.2	-1.2	-2.0	-0.4	-
Developing countries	4.7	2.7	1.2	-0.3	2.3	3.5

Source and country groups: as for table 4.3.7.
^a Preliminary estimates.

which is in conformity with the analysis below of the developed market economies' imports from the Soviet Union. In the latter part of 1981, Soviet exports to the market economies accelerated markedly, probably in response to the trade deficit in convertible currency trade which appeared in the first three quarters of the year, and they continued to grow at a high rate through most of 1982. Estimates for the year as a whole, as noted earlier, point to a 15 per cent increase in the volume of exports to developed and developing market economies, a remarkable performance given general world market conditions. Soviet imports from the market economies, in sharp contrast to those of eastern Europe, continued to rise strongly in volume throughout the period. In 1981, imports increased by 12 per cent in value: average unit values in dollar terms appear to have risen slightly (in contrast to the small decline in world trade unit values, perhaps owing to the substantial role of grain imports in the total), and volume grew by about 11 per cent. In 1982 there was no further increase in the value of Soviet imports from the market economies jointly as imports from developing countries declined by an estimated 10 per cent, a drop which was not fully offset by a small increase in imports from the industrial countries.³⁵¹ However, the accelerating decline in world market prices (in dollar terms) indicates that there was probably a further increase in import volume, which is estimated at about 6 per cent.

4.3(iv) Changes in trade balances

These developments in exports and imports produced a dramatic reversal in the aggregate trade balance of eastern Europe and a substantial improvement in the trade surplus of the Soviet Union. These changes are summarized in table 4.3.6 (for country detail, see table 4.3.7).

In *eastern Europe*, improvements in the balance of trade with the market economies had been a policy goal in most countries since the mid-1970s, and in several the elimination of the deficit by 1980 had been among the

five-year plan goals for the 1976–1980 period. This was expected to be attained through gains in *exports*, but in the event deficits started to decline, after a peak in 1978, only by virtue of *import* controls of various types, and initially at a slow rate. A significant turnaround was first registered in 1981, when the overall east European trade deficit was reduced by almost one half and a small surplus was attained with the market economies. However, owing to the rise in international interest rates in that year, the east European countries' current account in convertible currencies nonetheless remained in deficit. In 1982, by contrast, the improvement in the east European trade balance appears to have been large enough to offset the deficit on invisibles and thus to assure also a current account surplus in convertible currencies (see section 4.4(v) below). In the case of the *Soviet Union*, where the overall trade surplus (a normal feature in most years) had declined in 1981 and that in transactions with the convertible-currency area had practically vanished, a surplus quite close to the previous peak was recorded in 1982. The rise, by an estimated \$1.4 billion, reflects an increase in the surplus with market economies which was partially offset by a reduction of that with socialist countries.

4.3(v) Policies and outlook

In eastern Europe the events of 1982 appear to have imparted to policy makers a strong sense of vulnerability to uncontrollable outside developments. The threat to the solvency of a number of countries posed by the sudden reversal of financial flows and the steep rise in the deficit on invisibles in their balance of payments, developments which necessitated emergency adjustments in their national economic plans and policies, has special significance in this respect. Hence an easing of the tight balance-of-payments situation has assumed a pivotal role in the formulation of economic policy in the majority of the east European countries.

The rise in the deficit on the invisibles account was caused by the leverage of international interest rate movements on high levels of external debt. A reduction of the external debt has therefore become an important goal in a number of these countries. An explicit target in this respect has been set only in Romania.³⁵² But the

³⁵¹ The Soviet Union's return from Latin American to North American sources of supply for grain appears to account for the decline in the value of imports from developing countries. In January–September 1982, the last period for which full trade returns are available, imports from Argentina and Brazil were about \$1.1 billion lower than in the same period of the preceding year, which is a little more than the total decline in Soviet imports from developing countries, while Soviet imports from the United States and Canada rose by some \$0.8 billion.

³⁵² Romania intends to reduce the level of external debt by 30 per cent in 1983 and by 50 per cent by the end of 1985 (*Scinteia*, 9 October 1983 and 17 December 1983).

TABLE 4.3.7

Eastern Europe and the Soviet Union: changes in foreign trade value and trade balances by partner region, 1976–1982
(Growth rates in percentage; trade balances in billion US dollars)

Country and trade partner group ^a	Growth rates						Trade balance, in billion US dollars		
	Exports			Imports			Cumulative 1976–1980	1981	1982 ^b
	1976–1980	1981	1982 ^b	1976–1980	1981	1982 ^b			
Bulgaria									
World	17.3	3.0	5*	12.4	11.8	5*	0.6	-0.1	-0.1*
Socialist countries	14.4	0.4	10*	14.3	6.8	9*	-0.9	-0.8	-0.8*
Developed market economies	30.5	-12.4	-5*	5.4	29.6	-7*	-1.3	-0.7	-0.7*
Developing countries	22.5	34.5		11.2	32.1		2.9	1.4	
Czechoslovakia									
World	12.3	-0.1	5.1	10.8	-3.4	5.4	-3.7	0.2	0.2
Socialist countries	1.7	2.0	9.2	10.9	0.2	11.0	-1.6	-0.1	-0.3
Developed market economies	14.4	-9.9	-2.7*	10.6	-12.2	-10.6*	-3.6	-0.3	-0.1*
Developing countries	12.3	7.0	-9.3*	10.4	-10.8	-5.8*	1.4	0.6	0.5*
German Democratic Republic									
World	11.4	14.7	8*	11.1	5.8	1*	-8.4	-0.3	-1.0*
Socialist countries	10.3	9.2	8*	10.1	11.3	8*	-0.9	-0.4	-0.5*
Developed market economies	13.0	30.5	10*	12.1	2.4	-12*	-7.3	-0.5	1.5*
Developing countries	20.0	14.8		17.8	-37.1		-0.1	0.6	
Hungary									
World	7.2	1.3	1.7	5.1	-0.3	-3.0	-4.2	-0.4	—
Socialist countries	1.6	6.9	-0.2	—	1.4	0.3	—	0.4	0.3
Developed market economies	17.6	-11.3	1.5	13.3	0.6	-12.2	-3.9	-1.1	-0.6
Developing countries	19.6	12.4	10.9	12.1	-13.3	19.5	-0.3	0.3	0.2
Poland									
World	10.6	-21.9	5.7	8.8	-18.8	-15.5	-10.6	-2.2	1.0
Socialist countries	9.1	-17.7	16.8	13.1	-5.0	-2.6	-1.0	-2.3	-0.5
Developed market economies	12.5	-33.0	-6.8	1.6	-33.0	-30.1	-12.7	-0.6	0.5
Developing countries	13.4	-6.4	0.4	24.0	-46.9	-37.7	0.6	0.6	0.9
Romania									
World	15.9	10.6	-9.5	19.8	-5.6	-24.2	-3.7	0.2	1.8*
Socialist countries	10.6	10.1	3*	16.5	11.3	1*	0.2	-0.1*	1.6*
Developed market economies	15.1	-5.4	-17*	12.5	-14.6	-38*	-1.9	0.2	
Developing countries	26.8	43.8		41.1	-17.2		-2.1	—	
Eastern Europe									
World	12.2	0.5	4*	10.9	-3.1	-4*	-29.9	-2.6	4.0*
Socialist countries	10.3	0.8	8*	10.7	4.0	-6*	-4.2	-3.1	-1.5*
of this: Eastern Europe	8.3	-3.6	..	8.2	-3.5	..	—	—	—
Soviet Union	11.4	4.3	11*	12.0	9.1	8*	-7.2	-3.4	-2.0*
Developed market economies	15.2	-7.9	-3*	8.3	-10.2	-20*	-28.2	-2.9	1.1*
Developing countries	17.1	20.3	-3*	24.3	-22.4	-18*	2.5	3.4	4.3*
Soviet Union									
World	18.1	3.8	8*	13.2	6.8	7*	19.9	6.2	7.6*
Socialist countries	15.5	4.6	8*	13.5	2.0	15*	13.5	6.2	4.1*
Developed market economies	23.6	-1.9	8*	12.5	3.9	2*	-9.7	-1.2	3.6*
Developing countries	18.2	13.8	10*	13.6	37.8	-10*	16.1	1.2	

Source: Secretariat of the United Nations Economic Commission for Europe, based on national foreign trade statistics. Figures for 1982 are in some cases secretariat estimates based on national trade data for the first 9–11 months, supplemented by trade partner statistics and trend analysis; these may be subject to substantial error margins and should therefore be considered first approximations only.

Note: Growth rates and trade balances are based on trade values in terms of US dollars; growth rates may therefore differ from those shown in national statistics. National trade data are converted to dollars at the conversion coefficients used for statistical purposes. In most – but not all – cases these are time-weighted averages of the official “basic” exchange rate against the dollar, as announced by national banks or other authorities.

The measurement of trade value movements over the period 1980–1982 can be distorted by the changes introduced in the foreign trade accounting regimes in Romania (in 1981) and in Poland (in 1982). In both cases, the conventional valuation of foreign trade flows in terms of a special accounting currency unit (*valuta leu*, *zloty dewizowy*) was abandoned in favour of expressing trade values in terms of the ordinary domestic monetary unit (*leu*, *zloty*) through the use of conversion rates which, ideally, should approximate purchasing power parity ratios. In both cases, this reform also involved a substantial change in the rouble/dollar cross rate. Owing to the effect of this cross rate change, a direct comparison of trade values in the pre- and post-change year in terms of a third currency (whether this be the rouble or the dollar) will result in a biased image of value change (i.e., one that does not reflect the combined effect of price, volume and international exchange rate changes).

In order to avoid this distortion, a chain-linkage procedure has been employed here. In the case of Romania, comparisons between 1980 and 1981 are on the basis of the old (*valuta leu*) valuation for both years, and those between 1981 and 1982 on the basis of the new (*leu*) valuation for both years. In the case of Poland, the 1981 to 1982 comparison is made on the basis of the new (*zloty*) valuation for both years. These adjustments are also carried into the aggregation for eastern Europe. To illustrate the impact of these adjustments, it may be useful to review what the aggregate value changes for eastern Europe would look like if the chain-linkage approach were not used (compared to rates of change shown for eastern Europe in the table above):

	Exports		Imports	
	1981	1982	1981	1982
World	-1.2	—	-4.8	-8
Socialist countries	-2.1	2	1.1	-1
Eastern Europe	-7.0	-10	-7.2	-10
Soviet Union	2.0	5	6.8	—

The measurement of the value changes in trade with the market economies is not affected in the case of the dollar valuation of total trade (but note that a similar adjustment—in the opposite direction—would be required for trade with the market economies if total trade value were measured in terms of roubles). Correspondingly larger differences arose in the value expression of Romanian trade (in 1981) and of Polish trade (in 1982).

^a The partner country grouping follows the practice of the national statistical sources, which differs from the breakdown usually employed in United Nations publications. Thus, “socialist countries” includes Yugoslavia and Cuba, in addition to the east European countries, the Soviet Union and the Asian centrally planned economies. “Eastern Europe” refers to the six east European country members of the CMEA shown separately in the table.

^b Preliminary. Secretariat estimates indicated by asterisk.

achievement of a trade surplus, a precondition for carrying present debt service burdens and, a fortiori, for any debt reduction, appears among the targets of most of the east European plans for 1983.

While these observations concern the relationship of the east European countries with the market economies, adjustments with a similar overall impact are also required in their trade with the Soviet Union, where a scheduled further deterioration in the terms of trade of energy importers will necessitate increases in export volume, further efforts at energy – and thus import – conservation, or a mixture of both. Reduction of the trade deficit with the Soviet Union is therefore a target of a number in the east European plans.

With the present bleak outlook for a revival of external demand, the importance assigned by the east European countries to an easing of the balance-of-payments pressure throws much of the weight of adjustment on domestic macro-economic and import policies. The retrenchment of domestic demand observed in the discussion of the national plans for 1983 in chapter 3, both in the area of consumption and of investment, testifies to the former aspect. The linkage to balance-of-payments considerations is made most explicit in Czechoslovakia, where 40 per cent of the planned increment in national income is to be devoted to the achievement of an export surplus.³⁵³ While import policies and the policy tools to be used for their implementation in 1983 are generally not spelled out in any detail in the national plans, in a number of countries the implementation of the planned increase in exports is considered a prerequisite for the achievement of other plan targets, including those for imports. In the case of Romania, planned import allotments are explicitly made contingent on the achievement of export tasks, with provisions to cut these allotments in the contrary case. In Hungary, the system of import barriers announced to GATT last fall (a quota and license system, as well as tariff surcharges on certain types of imports) is to be maintained in 1983. Minimization of import requirements, the rationalization of import usage, and import

substitution (especially as regards imports from the convertible-currency area) are significant topics in the plans and policy discussions of all of the east European countries.

On the basis of these considerations, import demand from *eastern Europe* is likely to remain very weak in 1983, even if the desired improvements in export performance should materialize and the financing constraints should ease. In volume terms, this may easily mean another year of import contraction, especially if the continued adjustment to energy prices – which for these countries are still rising – is taken into account. The export efforts of the group can be expected to remain strong, and in volume terms export growth should receive a further impetus from recovery of Polish exports from their sharp decline in 1980–1981.

In the case of the Soviet Union, balance-of-payments considerations are not a constraint on economic policy (and recent developments in this sphere have in any case been favourable). Export earnings in trade with the market economies in 1983, however, are bound to be affected by the prospect of falling petroleum prices. As noted in chapter 3 above, the Soviet plan for 1983 envisages an increase in the growth of overall economic activity and, which is of particular significance here, a substantial increase in investment outlays. On the other hand, harvest results in 1982 were not such as to generate a substantial drop in agricultural imports. Soviet import demand is therefore likely to remain buoyant, and another increase in the volume of imports in the range observed in recent years is not at all improbable.³⁵⁴

³⁵³ See especially the presentation of economic policy by the head of the Czechoslovak State Planning Commission, S. Potac, in *Plánované hospodárství* (1983, No. 1) and *Rudé právo*, 25 November 1982.

³⁵⁴ A planned increase of about 2 per cent in total trade *turnover* appears to be implicit in the statement of Deputy Premier Baibakov, in his exposé of the 1983 plan to the Supreme Soviet, that trade turnover with socialist countries is to rise by 7.7 per cent and to reach almost 58 per cent of the total trade turnover (*Pravda*, 24 November 1982), since in 1982 the same share was about 54–55 per cent. According to the same speech, trade with the market economies in 1983 is to be slightly above the target of the five-year plan. While the latter target has not been published, the figures above would in turn imply a 5 per cent decline from the 1982 level in the turnover with the market economies. Unfortunately, targets in terms of “turnover” (exports plus imports) provide little information about expected changes in inward and outward trade flows respectively, since any given change in this measure is compatible with widely varying changes in the two components.

4.4 DEVELOPMENTS IN EAST-WEST TRADE³⁵⁵

There were a number of significant features in the development of east-west economic relationships during 1981 and 1982.³⁵⁶ One was the resurgence of Soviet export growth to the west in 1982 which, with the continued rapid rise in western exports to the Soviet Union, made this two-way flow an exceptionally dynamic one in comparison with the sluggishness of world trade as a whole. By contrast, western trade with eastern Europe has been in sharp decline.

The general economic factors responsible for this decline have been, on the one hand, economic stagnation in the west and, to a lesser extent, commercial policies designed to protect certain "sensitive" sectors. On the other hand, most east European countries have reacted to a rising debt service burden and weak export markets by adopting policies to increase exports and, more frequently, to reduce imports (also see section 4.3).

An additional element was added when commercial bank credits became progressively less available to the east in 1981 in response to the financial difficulties of Poland and Romania. After political tensions mounted at the end of 1981, this source of credit virtually dried up in 1982. Given the restricted access to new finance, eastern adjustment vis-à-vis the west accelerated in 1982. Since exporting possibilities remained limited, the burden of further adaptation fell on imports.

As a result, eastern Europe has turned its long-standing convertible-currency current-account deficit into a surplus in 1982 – the first in over a decade. In fact, such a surplus became a necessity given the inability of these countries to roll over their debt and their obligation to make scheduled repayments. It appears that in the process, the aggregate debt of eastern Europe was actually reduced in 1982 – thus reversing a decade-long upward trend.

In the sections which follow, east-west trade is discussed first in terms of western imports from eastern Europe and from the Soviet Union (section 4.4(i)). These same trade flows are then analyzed in terms of changes in commodity composition. Finally the underlying factors determining western imports are discussed. Western exports are treated in a parallel fashion in section 4.4(ii). Trade prices and the terms of trade are discussed in section 4.4(iii), while east-west trade balances by sub-region are presented in section 4.4(iv). The presentation ends with an analysis of the recent significant changes in eastern current account balances with the market economies in section 4.4(v).

4.4(i) Western imports

Over the past several years there have been substantial differences in the development of trade flows between the west and *eastern Europe* on the one hand, and the west and the *Soviet Union* on the other.³⁵⁷

After a period of uninterrupted growth in the second half of the 1970s, the volume of western imports from *eastern Europe* has fallen for three consecutive years. Following a decline of 1 per cent in 1980, the fall quickened to 6 per cent in 1981, and a somewhat slower rate carried over into the first three quarters of 1982 (table 4.4.1 and charts 4.4.1-4.4.3).³⁵⁸ In comparison, the volume of western imports from the *Soviet Union* had been declining for somewhat longer (since 1979), and more steeply, with an 8 per cent decline in 1981. However, there was a marked turnaround in the first three quarters of 1982, as western imports from the Soviet Union increased at a rate of some 13 per cent. The last year in which a change of comparable magnitude took place was 1976. The data in table 4.4.2 indicate that imports into western Europe, as distinct from the other developed market economies, were mainly responsible for this increase.

Economic stagnation in the west has probably been the dominant factor limiting eastern exports. Investment, an important determinant of machinery and equipment imports, has been depressed for several years. By contrast agricultural output has been rising, and this had the effect of curtailing the demand for certain food imports while simultaneously increasing export capacity. Moreover, numerous industries – steel, chemicals, machine tools, automobiles, etc. – have been operating for several years at low rates of capacity utilization, thereby intensifying competition in world markets.

Sluggish domestic demand has been reflected in the development of total western imports from the world, the volume of which declined in 1980 and 1981 by 1 per cent and 3 per cent respectively (see section 4.2 above). In the past, western imports from eastern Europe have tended to develop in line with western imports from the world, although this was true to a lesser extent in 1981. In the first three quarters of 1982, the two series diverged as western imports from the world rose slightly while those from eastern Europe declined by 5 per cent. This relationship is examined in more detail below.

In the area of commercial policy changes, the trade-

³⁵⁵ This section, along with parts of section 4.1 of this chapter in which recent commercial policy and international financial developments are treated, are meant to extend and update the survey of east-west economic relationships to be found in United Nations, *Economic Bulletin for Europe*, Vol. 34, No.4 (completed in October 1982).

³⁵⁶ The term "developed market economies" (or for convenience "west" or "western") as used here refers to the countries of western Europe (including Turkey and Yugoslavia), North America and Japan. This grouping is intended only for statistical convenience. The term "eastern Europe" refers to Bulgaria, Czechoslovakia, the German Democratic Republic, Hungary, Poland and Romania taken together; the term "east" or "eastern countries" refers to eastern Europe together with the Soviet Union. The regional grouping "southern Europe" found in several tables includes Greece, Portugal, Spain, Turkey and Yugoslavia; "southern Europe" is always included in the "western Europe" grouping.

³⁵⁷ The analysis presented here is based upon the United Nations trade data base (COMTRADE) which derives from western sources. However, in certain cases, data taken from the national sources of the eastern countries are also introduced. In both cases, the country coverage of the statistical aggregate "developed market economies" (defined above) is the same. However, differences arise between the two data sets, the nature of which has been analyzed in P. Marer, "Toward a Solution of the Mirror Statistics Puzzle in East-West Commerce" in F. Levick, (ed.), *International Economics – Comparisons and Interdependences*, Vienna Institute for Comparative Economic Studies, 1978.

³⁵⁸ Unless otherwise noted, data for 1982 in this section refer to the first three quarters only. Growth rates and incremental changes are for the first three quarters relative to the same period in 1981. All data for 1982 should be considered preliminary. Country data in value terms are given in Appendix tables 1 and 2.

INTERNATIONAL TRADE OF THE DEVELOPED MARKET ECONOMIES WITH EASTERN EUROPE AND THE SOVIET UNION

indices 1975 = 100

CHART 4.4.1.

WEST VIS-A-VIS
EASTERN EUROPE

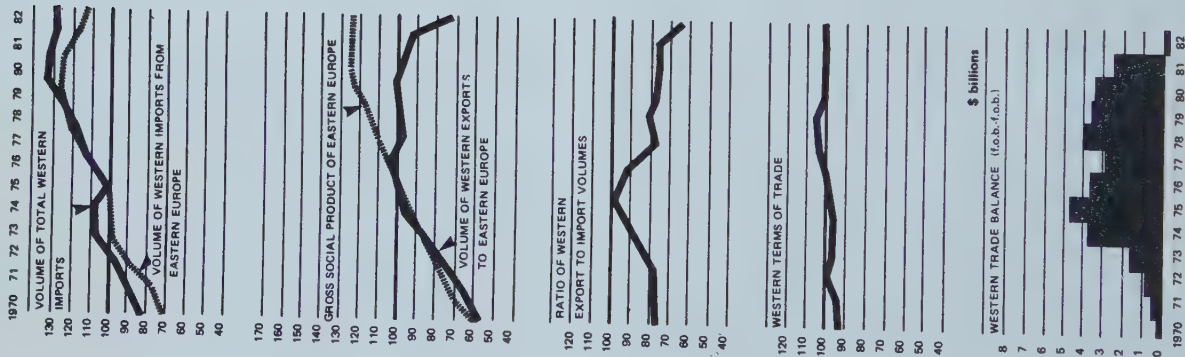


CHART 4.4.2.

WEST VIS-A-VIS
SOVIET UNION

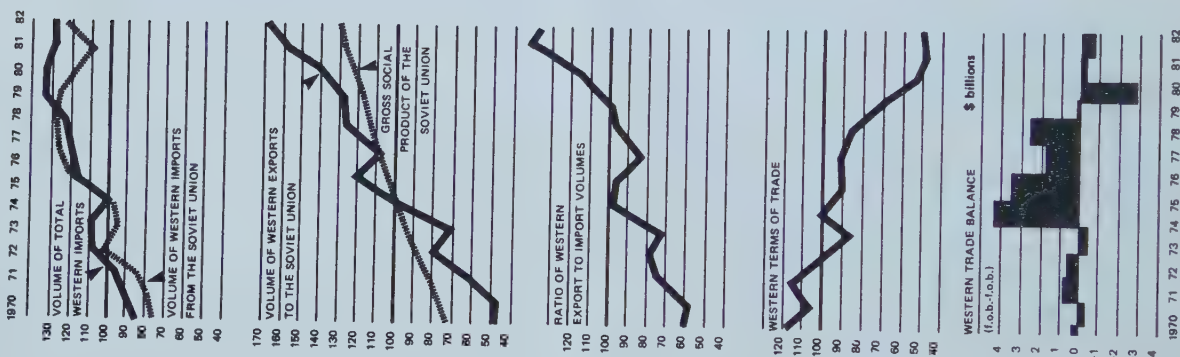
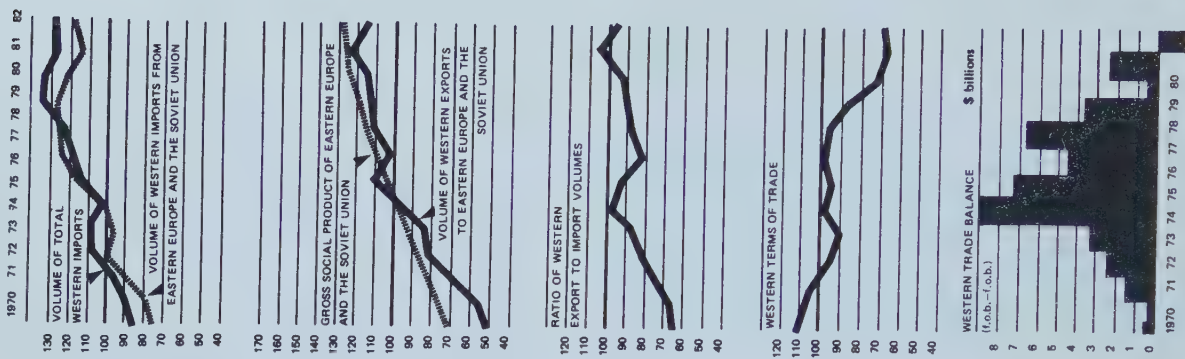


CHART 4.4.3.

WEST VIS-A-VIS EASTERN
EUROPE AND SOVIET UNION



Source: As for table 4.4.1.
Data for 1982 are preliminary estimates.

TABLE 4.4.1

East-west trade: value, volumes, prices, terms of trade, 1976-1982
(Percentage change over the same period of previous year)

Developed market economies with:	Western exports							Western imports						
	1976	1977	1978	1979	1980	1981	Jan.-Sept. 1982	1976	1977	1978	1979	1980	1981	Jan.-Sept. 1982
<i>Values (in US dollars)</i>														
Eastern Europe and Soviet Union . .	6	—	18	19	12	-4	-8	18	11	13	34	22	-8	1
of which:														
Eastern Europe	-2	1	19	17	9	-16	-24	13	7	15	25	12	-14	-9
Soviet Union .	9	-1	16	20	16	8	4	23	14	11	42	31	-3	8
<i>Volumes</i>														
Eastern Europe and Soviet Union . .	13	-9	10	1	3	4	-5	20	4	2	1	-3	-7	5
of which:														
Eastern Europe	5	-8	2	1	-4	-6	-21	16	4	3	4	-1	-6	-5
Soviet Union	22	-11	15	1	8	15	7	25	3	2	-2	-5	-8	13
<i>Prices (in US dollars)</i>														
Eastern Europe and Soviet Union . .	-7	9	8	17	10	-8	-3	-2	6	11	32	25	-1	-4
of which:														
Eastern Europe	-3	7	16	16	12	-10	-3	-3	3	13	21	14	-7	-4
Soviet Union .	-10	11	1	19	8	-7	-3	-2	9	9	44	37	5	-5
<i>Western Terms of trade (1975 = 100)</i>														
	1976	1977	1978	1979	1980	1981	1982							
Eastern Europe and Soviet Union . .	96	99	96	86	74	68	70							
of which:														
Eastern Europe	101	105	108	104	102	100	101							
Soviet Union .	91	93	86	71	55	49	50							

Sources: United Nations commodity trade data (COMTRADE); OECD, *Statistics on Foreign Trade, Series A*, Paris; IMF, *Directions of Trade and International Financial Statistics*, Washington D.C.; national statistics.

Price and volume indices: for the methodology and derivation, see United Nations, *Economic Bulletin for Europe*, Vol. 31, No. 1.

These data reflect the trade of twenty three western reporting countries (Appendix table 1 contains a list of those countries included). Throughout, western data do not include trade between the Federal Republic of Germany and the German Democratic Republic, unless otherwise noted. The same data are used in charts 4.4.1 to 4.4.3. In addition, the volume indices of total western imports from the world come from United Nations, *Monthly Bulletin of Statistics*. The indices of gross social product of eastern Europe and the Soviet Union used in the charts are based upon the national statistical sources of those countries.

Eastern statistical sources, data from which are used in several subsequent tables, include trade between the Federal Republic of Germany and the German Democratic Republic. For comments on eastern data also see note to table 4.3.7.

creation effect stemming from the Tokyo Round tariff cuts continued to benefit those eastern countries whose products receive most-favoured-nation treatment. However, a number of western commodity imports – steel, certain textiles, agricultural products – are likely to have been restrained by various non-tariff barriers in certain markets. In this regard, some eastern countries have reported that their exports have recently encountered greater restrictions in western markets.

It may also be useful to note the strong impact of Poland's trade on western imports from eastern Europe. Poland's exports to the west declined by 34 per cent in value terms in 1981 and by another 13 per cent in the first three quarters of 1982, as a consequence of domestic economic difficulties and shortages of imported inputs. In fact, the volume of western imports from east European countries other than Poland increased by some 2-3 per cent in 1981, in strong contrast to the decline of total western imports from the world by 3 per cent. This relatively favourable performance on the part of these east European countries in 1981 was rather unusual since, in the past, western imports from them have grown at the same rate as, or slower than, western imports from the world (as was the case in 1978 and 1979). The particularly strong export performances of the German Democratic Republic and Romania were responsible for the outcome in 1981.

However, in the first three quarters of 1982, western imports from east European countries excluding Poland fell by around 3 per cent, in contrast to the slight increase

in total western imports from the world, and in spite of another strong export performance by the German Democratic Republic (with an increase in volume terms of some 10 per cent) and to a lesser extent by Czechoslovakia. However, there was considerable divergence in country experiences in this regard, as exemplified by the particularly large drop in Romanian exports.

Given the major changes in western imports from the Soviet Union in 1982, as well as the unusual development of western imports from eastern Europe, it may be useful to determine which commodities have played important roles in each case. In terms of SITC commodity sections (table 4.4.3),³⁵⁹ the fall in western imports from eastern Europe in 1982 can be attributed largely to lower eastern deliveries of mineral fuels (SITC 3) and, to a lesser extent (in order of importance), to manufactured goods (SITC 6), machinery and transport equipment (SITC 7), food (SITC 0) and miscellaneous manufactures (SITC 8).

Imports of petroleum and petroleum products (SITC 33), which account for 15 per cent of total western imports from eastern Europe, fell by some 19 per cent in volume. With the exception of the German Democratic Republic, whose exports of these products rose by some

³⁵⁹ In addition, the country data in Appendix tables 3 and 4 should be consulted. These tables are based upon data for the first three quarters of 1982 and the same period in 1981 as reported by twelve western countries. Also see notes to table 4.4.3. The issue of commodities is addressed again in section 4.4.(ii), where the significant developments in western exports are examined.

TABLE 4.4.2

East-west trade: change in trade value, by major partner regions, 1978-1982
(Percentage change in US dollar terms)

	Western exports					Western imports				
	1978	1979	1980	1981	1982 ^a	1978	1979	1980	1981	1982 ^a
A. Developed market economies with:										
Eastern Europe and Soviet Union	18	19	12	-4	-8	13	34	22	-8	1
of which: Eastern Europe	19	17	9	-16	-24	15	25	12	-14	-9
Soviet Union	16	20	16	8	4	11	42	31	-3	8
<i>Western Europe with:^b</i>										
Eastern Europe and Soviet Union	14	15	19	-7	-12	13	35	25	-8	3
of which: Eastern Europe	18	14	9	-16	-21	13	27	14	-16	-7
Soviet Union	9	17	32	1	-5	13	43	34	-2	10
<i>Southern Europe with:</i>										
Eastern Europe and Soviet Union	25	14	50	16	-11	16	24	32	2	-17
<i>North America with:</i>										
Eastern Europe and Soviet Union	43	51	-16	9	2	31	12	2	11	-30
<i>Japan with:</i>										
Eastern Europe and Soviet Union	20	2	10	12	11	1	34	-4	-17	-7
B. Developed market economies with:										
Eastern Europe and Soviet Union	15	18	15	-	-7	10	37	24	-5	1
of which: Eastern Europe	11	15	10	10	-20	13	26	18	-7	-6
Soviet Union	21	22	21	10	5	7	50	29	-2	6

Sources: As for table 4.4.1 (western data) and 4.3.7 (eastern data).

Note: Section A is based on western data; section B is based on eastern national sources.

^a January-September, over the same period in 1981.

^b Western Europe includes southern Europe.

37 per cent in volume, all other eastern countries reduced their deliveries, generally by about 30 per cent. This latter development may reflect the reduction in east European imports of crude oil for refining as well as slackening western demand. Within the fuels section (SITC 3), western imports of coal rose by some 30 per cent and thus somewhat offset the effect of the drop in petroleum product imports.³⁶⁰

The overall decline in western imports tends to overshadow a number of east European export successes in western markets for manufactures. This was particularly true for chemicals, the volume of which increased by some 8 per cent. All eastern countries, except Poland, but especially Romania, Czechoslovakia and the German Democratic Republic, managed to increase the volume of chemicals exports (SITC 5), by amounts ranging from 15 to 25 per cent (Appendix tables 3 and 4). Regarding other commodity sections, Bulgaria, Czechoslovakia, the German Democratic Republic and Hungary increased export volumes of manufactured goods (SITC 6), while Romania and Bulgaria accomplished the same in the miscellaneous manufactures section (SITC 8). The German Democratic Republic was the only country whose exports of machinery and transport equipment rose in spite of the poor investment climate in the west.³⁶¹ Thus on the whole, it would appear that

eastern Europe's manufactures (SITC 5-8) fared reasonably well in 1982, perhaps because of exceptional export efforts. Finally, Czechoslovak and Hungarian food exports (SITC 0), which together accounted for over one-half of east European exports of this commodity group, increased, as did their exports of crude materials (SITC 2).

In the first three quarters of 1982, the largest increases in imports (in value) from *eastern Europe* were registered by Norway (74 per cent), Greece (17 per cent), Ireland (9 per cent), Denmark, Spain and the United Kingdom (5-6 per cent), and Italy (2 per cent). These changes in value probably also reflect increases in volume terms.

These changes in western imports from the east have taken place against the background of certain developments in the eastern capacity to export to the west. A number of issues may be noted here, although it is beyond the scope of this review to assess their impact. First, the recent reduction in imports from the west by eastern Europe has led in some cases to shortages of necessary inputs for production, and this has contributed to the slowdown of output growth, including that of goods produced for export. It is well known, for example, that the unavailability of particular imported components, raw materials or energy can have a disproportionate effect on output.³⁶²

Second, the process of adjustment which the east European countries have been pursuing vis-à-vis the west (discussed below) has coincided with their external adjustment within the CMEA trading region (section 4.3). This latter adjustment, taken in response to terms of trade changes, has consisted of expanded export

³⁶⁰ In 1982 there was a large improvement in the availability of Polish coal and certain other raw materials following a substantial recovery in Poland's domestic production. The Polish authorities have indicated that an export volume of 28.5 million tons of coal was achieved for all of 1982, of which 16.6 million tons went to the convertible currency area. This compares with exports to the west of some 9 million tons in 1981.

³⁶¹ In this regard, Mr. S. Potáč, the Czechoslovak Deputy Premier, noted recently that the decline in world investment activity in 1982 increased the difficulty of exporting Czechoslovak machinery ("Hlavní úkoly hospodářského a sociálního rozvoje na rok 1983", *Plánované hospodářství*, No. 1, 1983 p. 2).

³⁶² This was the case in Poland, as was specially noted in the report on 1982 economic developments (see "Komunikat Głównego Urzędu Statystycznego o sytuacji społeczno-gospodarczej kraju w 1982 r.", *Trybuna Ludu* (Warsaw), 12-13 February 1983).

TABLE 4.4.3

East-west trade: values and volumes by major commodity groups, January–September 1982^a

SITC Section	Western exports					Western imports				
	Share (per cent)	Value (\$ billions)		Growth rate (per cent)		Share (per cent)	Value (\$ billions)		Growth rate (per cent)	
		Level	Change	Value	Volume		Level	Change	Value	Volume
Western trade with eastern Europe										
0 Food and live animals	15	1.2	-1.2	-50	-38	12	0.9	-0.1	-12	-6
04 Cereals	11	0.8	-0.8	-47	-35	1	0.1	—	8	20
2 Crude materials	6	0.5	-0.1	-19	-4	8	0.7	-0.1	-10	2
3 Mineral fuels	2	0.2	-0.2	-49	-44	23	1.8	-0.2	-12	-7
32 Coal	1	0.1	-0.1	-57	-52	8	0.6	0.1	25	30
33 Oil and oil products	1	0.1	—	-15	-10	15	1.2	-0.4	-24	-19
4 Animal and vegetable oils	1	0.1	—	39	69	1	0.1	—	36	66
5 Chemicals	19	1.5	-0.2	-12	-7	9	0.7	—	3	8
6 Manufactured goods	22	1.7	-0.3	-15	-12	20	1.6	-0.1	-7	-4
7 Machinery and transport equipment	28	2.2	-0.6	-21	-17	10	0.8	-0.2	-20	-16
8 Misc. manufactures	5	0.4	—	-9	-6	16	1.2	-0.1	-4	-1
Total (0-9)	100	7.8	-2.6	-25	-20 ^b	100	8.0	-0.8	-9	-5 ^b
Western trade with Soviet Union										
0 Food and live animals	23	3.5	0.1	3	15	1	0.1	—	4	10
04 Cereals	18	2.7	0.4	18	30	—	—	—	36	48
2 Crude materials	3	0.4	0.1	52	82	9	1.3	-0.1	-7	—
3 Mineral fuels	1	0.2	0.1	64	69	75	11.4	1.0	10	14
32 Coal	—	—	—	-83	-78	1	0.2	—	-16	-21
33 Oil and oil products	1	0.2	0.1	64	69	54	8.2	1.2	16	21
34 Natural gas	—	—	—	—	—	12	1.9	0.1	7	..
5 Chemicals	9	1.4	-0.2	-13	-8	4	0.6	-0.1	-13	-8
6 Manufactured goods	31	4.7	0.7	17	20	6	0.9	0.2	24	27
7 Machinery and transport equipment	26	3.9	0.8	25	29	1	0.2	—	-8	-4
8 Misc. manufactures	5	0.7	-0.1	-10	-7	—	—	—	-23	-20
9 Not elsewhere classified	1	0.1	—	11	..	4	0.7	0.2	50	..
Total (0-9)	100	15.0	1.5	11	17 ^b	100	15.2	1.2	8	13 ^b

Source: United Nations commodity trade data (COMTRADE), quarterly data, "series D". These data are based upon SITC Rev. 2.

Note: In contrast to the broader coverage of table 4.4.1, coverage here and in Appendix tables 3 and 4 is reduced to countries for which data were available for the first three quarters of 1982 and the same period in 1981: Austria, Belgium, Luxemburg, Canada, Finland, France, Federal Republic of Germany, Italy, Japan, Sweden, Switzerland and the United States. These twelve countries account for some 75–80 per cent of total western trade with eastern Europe and the Soviet Union. Growth rates of total imports and exports based on this sample may therefore differ from the growth rates of total trade as given in table 4.4.1, 4.4.2 and Appendix table 1. These data exclude trade between the Federal Republic of Germany and the German Democratic Republic.

^a Changes are with respect to same period in 1981.^b For volume change based on total trade with all western reporting countries, see table 4.4.1.

volume and/or reduced imports of supplies; either development could affect the availability of exportables for east-west trade. The specific policy responses to these challenges have been discussed in section 4.3.

Finally, a number of eastern countries have indicated that their exports have been augmented through reductions in domestic stocks. This would suggest, given present western market conditions, that the goods were relatively price elastic (i.e. fuels, raw materials, food, etc.) and that this particular source of supply might have resulted in a one-time increase in exports.

The turnaround in western imports from the *Soviet Union* in 1982 is largely attributable to the fuel sector. Imports of fuels from the Soviet Union increased by about 14 per cent in volume (table 4.4.3). A contributing factor was the 27 per cent rise in manufactured goods imports (SITC 6) which, although much higher in terms of volume growth than fuels, have a smaller impact on the total because of their significantly lower weight in the western import structure. Within this commodity section, iron and steel (67), non-metallic mineral manufactures (66), and non-ferrous metals (68) were exclusively responsible for the improved volumes. A large increase was also recorded in the import of non-monetary

gold (SITC 971). Imports in all other one-digit SITC sections declined or, as in the case of crude materials, stayed constant.

Since imports of energy products from the Soviet Union make up some 75 per cent of total western imports from that country, any changes in the overall flow are likely to reflect movements in one or more of the energy components. The volume of western energy imports from the Soviet Union had been declining for several years. In 1982, however, the volume of petroleum and petroleum products increased by over 20 per cent.³⁶³ These sales were achieved at a time of generally contracting oil demand and softening world market

³⁶³ The data for the energy trade sector should be taken as indicators of broad directions of change, since the Netherlands — the location of a major oil spot market — could not be included in the sample of western countries underlying the data used here (also see table 4.4.3). The 21 per cent rise in western crude oil and products imports from the Soviet Union indicated by our country sample for the period January–September 1982 may be compared to an increase of 45 per cent registered in OECD statistics for January–June 1982 (OECD, *Quarterly Oil Statistics*, October 1982). While differences in country coverage may be responsible for the lower United Nations figure, it is also possible that the latter data reflect a sharp slowdown in western oil imports from the Soviet Union in the third quarter of 1982.

prices as western net imports of oil and oil products declined by some 13 per cent in both 1981 and 1982. Imports of natural gas from the Soviet Union showed a 7 per cent rise in value (and possibly increased in volume) in the first three quarters of 1982. Further substantial increases in Soviet domestic production in 1982 (7.7 per cent) created the supply potential for such additional exports.

The increased capacity of the Soviet Union to export crude oil and products probably reflects a variety of factors such as increased production in 1982 (613 million tons in 1982 compared to 609 million tons in 1981), the continuation of the policy of substituting other fuels, particularly natural gas, for certain end-uses, a decline in purchases of crude oil by some eastern countries and, possibly, savings realized as a result of lower-than-planned growth in industrial output. The increased need to export, following a slowdown in the growth of oil revenues at a time when grain imports were increasing, may also have been a factor. It may be noted here that in the past decade a considerable portion of the Soviet Union's increased import capacity has resulted directly from terms-of-trade improvements following oil price increases. Consequently, when price rises slow, or fall as in the past year, adjustments in trade may occur: in 1982 they consisted of export volume increases.

Among the individual market economies, the largest increments in imports from the *Soviet Union* in the first three quarters of 1982 were in the Federal Republic of Germany and the Netherlands (each increasing imports by over \$600 million), Belgium and Italy (by \$420 million each), and Sweden and the United Kingdom (by \$220 million each). Although several other countries registered large increases in imports in percentage terms (Norway 39 per cent, Denmark 39 per cent and Switzerland 19 per cent), the absolute increments were much smaller. These changes are likely to represent considerable increases in volume.

4.4(ii) Western exports

Except in 1974 and 1977, the volume of western exports to the *Soviet Union* has increased in every year during the past decade, although at highly variable annual rates (see Chart 4.4.2). An acceleration in growth is evident in 1980 and 1981, with a rate of 15 per cent in the latter year. Estimates for the first three quarters of 1982 indicate a lower, but still relatively high, rate of 7 per cent. By contrast, after a period of stagnation, western exports to *eastern Europe* have been declining in absolute terms since 1980. Export volumes fell by 4 and 6 per cent in 1980 and 1981 respectively, after which the decline steepened to some 21 per cent in the first three quarters of 1982. Whereas in 1981 the aggregate decline conceals export increases to Bulgaria, the German Democratic Republic and Hungary, in the first three quarters of 1982, exports to all east European countries fell.

In the late 1970s and early 1980s, the east European market for western exports became more limited because of eastern balance-of-payments deficits. These imbalances were aggravated by rising interest rates on accumulating external debt (see section 4.1). Thus, as the world recession and the other factors already mentioned reduced eastern Europe's export growth prospects, imports were progressively reduced to prevent a further widening of the external deficit. Nevertheless, there had been considerable differences in the development of western export volumes to the individual eastern countries until the general decline in 1982. These export trends also appear to have reflected differences in the

degree of external constraint as well as in national policies.

However, as it became more difficult for the eastern countries to borrow in commercial markets toward the end of 1981, followed by a near-closure of the market to eastern Europe in 1982, the scope for maintaining such policy differences among countries tended to disappear. Despite restricted access to finance, the burden of debt servicing remained and, in this case, the immediate pressure of adjustment fell on imports (see the country data in Appendix tables 1 and 2). Yet, not all countries were equally affected by these developments. Hungary managed to open several new lines of credit, but these appear to have been only sufficient to keep imports from being cut even further.

Although the fall in the total volume of western exports to eastern Europe in 1982 affected all commodity sections (except SITC 4), there have nevertheless been major changes in the commodity pattern of trade (table 4.4.3).³⁶⁴ The most significant reductions were in the food section (a 50 per cent decline in value terms, equal to \$1.2 billion), which was accounted for largely by Romania and Poland and, to a lesser extent, by Bulgaria and the German Democratic Republic. In the case of Poland, this development is likely to have been linked to the reduced availability of officially-backed credits, particularly from the United States (also see section 4.1 on developments in commercial policies). By contrast, the volume of food imports into Czechoslovakia increased. To the extent that these figures are confirmed by more complete data, this change would represent a major turnaround in the long-term trend of increasing western food exports to the east European market.

Next in terms of the magnitude of reductions were machinery and equipment (SITC 7), manufactured goods (SITC 6) and chemicals (SITC 5). Exports of these goods to all eastern countries were lower with the following exceptions: chemical exports to Poland increased by 34 per cent in value terms; and the volume of exports of machinery and transport equipment to Czechoslovakia and Hungary increased by some 2 and 6 per cent respectively. Poland and Romania curtailed imports in the machinery section the most, followed by the German Democratic Republic and Bulgaria.

The continued rapid development of western exports to the Soviet Union in 1982 reflected, among other things, large purchases of grain and a faster flow of machinery and equipment ordered in 1981. It has been estimated that Soviet machinery orders jumped from some \$2 billion in 1980 to \$5 billion in 1981, the latter figure including capital goods destined for the Urengoy and other pipeline systems.³⁶⁵ The most important increase in exports (some 29 per cent in volume terms) was in machinery and transport (SITC 7) and in particular in SITC divisions which comprise pipeline-related capital goods: machinery specialized for particular industries (72), general industrial machinery and equipment (74), road vehicles (78), and to a lesser extent, power generating machinery and equipment (71). A volume increase of about 20 per cent was recorded in the manufactured goods section (6): this reflected an especially large increase in iron and steel exports (SITC 67, which includes pipes). Finally, western exports of food increased by some 15 per cent in volume, all of which was accounted for by the 30 per cent rise in cereals (SITC 04).

The demand of the Soviet Union for western exports reflects the development of its convertible currency

³⁶⁴ Also see Appendix tables 3 and 4.

³⁶⁵ Economist Intelligence Unit, *Quarterly Economic Review: USSR* (4th Quarter 1982), p.18.

earnings which, as already noted above, have been largely determined by sales of fuels to the west. However, exports to the developing countries have also been important, particularly in 1982, when they grew rapidly. Sales of gold, historically, another major source of revenue, appear to have been less important in 1982 than in 1981.

Although western exports to *eastern Europe* were down sharply in the first three quarters of 1982, several western countries did manage increases – Turkey, 34 per cent; Canada, 26 per cent; and Finland, 26 per cent. Those countries increasing exports to the *Soviet Union* were more numerous – Greece, by 99 per cent; United States, 42 per cent; Japan, 22 per cent; Austria, Canada and Italy all by somewhat under 20 per cent; Federal Republic of Germany by 11 per cent. However, in terms of absolute increments, the major contributions were made by the United States (\$650 million), Japan (\$500 million) and the Federal Republic of Germany (\$300 million).

4.4(iii) Trade prices and the terms of trade

In 1981, western terms of trade with the *Soviet Union* and, to a lesser extent, with *eastern Europe*, continued to decline, largely reflecting the last repercussions of the second major rise in world energy prices (table 4.4.1). However, in the first three quarters of 1982 there was a reversal in this trend – the first improvement in the western terms of trade with the east since 1978. Since energy accounts for about 75 per cent of western imports from the *Soviet Union* and for about 20 per cent of imports from *eastern Europe*, any significant changes in energy prices must have an impact on overall western import prices and the terms of trade. Energy prices rose relatively slowly in terms of US dollars in 1981. By contrast, the prices of manufactured goods, which dominate the export structure of the developed market economies vis-à-vis the east, declined in terms of US dollars. The use of contract prices for manufactured goods defined in terms of currencies other than the dollar may have imparted an additional downward push to trade unit values in face of the appreciation of the US dollar. In 1982 the situation was somewhat different since the decline in energy prices exceeded the decline in manufactured goods prices (both in US dollars), which resulted in a western terms of trade improvement.

4.4(iv) Trade balances

It is now clear that there was a significant change in the historical pattern of *trade balances* between east and west in 1982. On the basis of both eastern and western trade statistics, the west is likely to have recorded a deficit with *eastern Europe* for the first time since the 1960s. This turnaround highlights the profound changes which are under way in east-west economic relations (table 4.4.4).

Having declined unevenly from a peak level of \$4.6 billion in 1975, the trade surplus of the developed market economies vis-à-vis *eastern Europe* fell to \$2.4 billion in 1981. Trade flows during the first three quarters of 1982 resulted in a western deficit of some \$0.3 billion, and an extrapolation of the trade performance during this period to the year as a whole yields an estimate of a western deficit of about the same magnitude, for a turnaround of almost \$3 billion in a single year. Even if the actual figure for the year may turn out to be slightly

lower,³⁶⁶ it is certain that there has been a significant adjustment in the balance of these trade flows.

In trade with the *Soviet Union*, the \$2.8 billion western deficit recorded in 1980 almost disappeared again in the following year (\$0.2 billion) as western imports from the *Soviet Union* declined while exports continued to grow at a substantial pace. The strong upswing in western imports in the first nine months of 1982, accompanied by a deceleration in the region's exports to the *Soviet Union*, raised the deficit to \$0.6 billion. An extrapolation of the nine-months trade trends yields a western deficit for the full year of \$1.5 billion, but for a number of reasons a substantially smaller western deficit is more likely.³⁶⁷ Nonetheless, even this is noteworthy, since it will have been almost entirely the result of an export volume push on the part of the *Soviet Union*. In the past, western deficits or declines in western surpluses have tended to be the consequence of price changes and the deterioration of western terms of trade in the course of the oil price increases of the last decade.

Among the regional groupings which make up the developed market economies, the changes in trade balances with the east have been divergent. *Western Europe*, which accounts for most of western trade with the east, has had a gradually declining surplus with *eastern Europe*. In 1981, it declined to some \$1 billion, and in the first nine months of 1982 this changed to a deficit – the first since the early 1960s – of almost \$1 billion. By contrast, western Europe's trade with the *Soviet Union* has been in deficit every year during the past decade except for 1973 and 1975. Moreover, there was a significant rise in the deficit following the second round of oil price increases. In the first nine months of 1982 the deficit was over \$5 billion, as against \$3 billion in the same period of 1981.

North America's trade with the *Soviet Union* has always been in surplus, and this increased to \$3.6 billion in 1981. In the first three quarters of 1982 the surplus was \$3.1 billion. Although this figure represents a substantial rise over that in the period of 1981, it is also unlikely in this case that the extrapolated value for the whole year of \$5 billion was reached. By contrast, the surplus with *eastern Europe* declined in 1982, perhaps reverting to the low levels of the early 1970s.

Japan's trade balances have developed in a similar fashion to those of *North America*: declines in the surplus (which has been relatively small and constant) with *eastern Europe* in 1981 and 1982, and further increases in the surplus with the *Soviet Union*.

Eastern national trade statistics (table 4.4.4, section B) show similar trends in trade balances. However, the trade surpluses of the developed market economies with *eastern Europe* have generally been larger in terms of these data, while no consistent pattern is evident in trade with the *Soviet Union*.

³⁶⁶ A similar exercise based on eastern data, where estimates for the full-year are available, suggests that the annual change in trade balances may be somewhat smaller than that extrapolated from the performance of the first three quarters. There appears to have been a tendency for western exports to *eastern Europe* to pick up a bit, and for western imports to slow down some more during the last months of the year. Nonetheless, the eastern data also yield a turnaround in the trade balance (see table 4.4.4).

³⁶⁷ It should be stressed that the extrapolated 1982 trade balance figures shown in panel A of table 4.4.4 and in Appendix table 2 are offered only to provide an annualized picture of January-September trends and may not be good estimates of the most likely full-year outcome. In the case of western trade with the *Soviet Union*, the extrapolated trade values for 1982 reflect significant changes in trade in the latter part of 1981: a substantial slowing of western exports and a sharp pickup of western imports. There are some indications that changes in the last quarter of 1982 were in the opposite direction; hence the extrapolated values of the balance are likely to be too high.

TABLE 4.4.4

East-west trade: trade balances, 1973-1982
(Billions of US dollars, f.o.b.-f.o.b.)

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982 ^a	Jan.-Sept 1981	1982
A. Developed market economies with:												
Eastern Europe and the Soviet Union	2.8	3.5	8.8	7.0	4.7	6.7	3.7	0.6	2.3	-1.8	2.1	-0.9
of which: Eastern Europe	1.8	3.6	4.6	3.6	2.9	4.0	3.5	3.4	2.4	-0.3	2.0	-0.3
Soviet Union	1.0	-0.1	4.2	3.4	1.8	2.7	0.2	-2.8	-0.2	-1.5	0.2	-0.6
Western Europe with: ^b												
Eastern Europe and Soviet Union	1.6	2.7	5.3	2.2	1.5	2.0	-2.7	-5.1	-4.5	-10.1	-2.3	-6.2
of which: Eastern Europe	1.3	3.0	3.7	2.6	2.1	3.0	1.8	1.2	1.1	-1.0	0.8	-0.9
Soviet Union	0.3	-0.3	1.6	-0.4	-0.6	-1.0	-4.5	-6.3	-5.6	-9.1	-3.1	-5.4
Southern Europe with:												
Eastern Europe and Soviet Union	-0.2	-0.2	-0.1	-0.3	-0.7	-0.5	-1.0	-0.6	0.2	0.6	—	-0.3
of which: Eastern Europe	-0.2	-0.2	-0.3	-0.4	-0.5	-0.5	-0.6	-0.3	-0.3	-0.2	-0.2	-0.2
Soviet Union	—	—	0.2	0.1	-0.1	—	-0.4	-0.3	0.5	0.9	0.2	0.5
North America with:												
Eastern Europe and the Soviet Union	1.5	0.5	2.5	3.2	2.0	3.0	5.1	4.0	4.3	5.3	3.0	3.4
of which: Eastern Europe	0.3	0.3	0.5	0.7	0.3	0.5	1.2	1.6	0.8	0.3	0.8	0.3
Soviet Union	1.2	0.3	2.0	2.6	1.7	2.4	3.9	2.4	3.6	5.0	2.2	3.1
Japan with:												
Eastern Europe and Soviet Union	-0.3	0.2	1.0	1.6	1.2	1.7	1.3	1.7	2.4	3.0	1.5	1.9
of which: Eastern Europe	0.2	0.3	0.4	0.4	0.5	0.5	0.5	0.6	0.5	0.3	0.4	0.3
Soviet Union	-0.4	-0.1	0.6	1.2	0.7	1.2	0.8	1.1	1.9	2.7	1.0	1.6
B. Developed market economies with:												
Eastern Europe and Soviet Union	3.1	4.3	10.6	9.4	6.0	8.3	4.0	0.5	3.2	-0.6*	4.7	-0.1
of which: Eastern Europe	2.4	5.0	6.1	6.0	5.3	5.5	4.6	3.0	2.4	-1.1*	2.3	-0.9
Soviet Union	0.7	-0.6	4.5	3.3	0.7	2.8	-0.6	-2.4	0.7	0.6*	2.5	0.9

Source: As for table 4.4.1 (western data) and 4.3.7 (eastern data).

Note: Section A is based on western data which have been adjusted to an f.o.b.-f.o.b. basis by the secretariat; section B is based on eastern national sources. A positive balance indicates a surplus for the developed market economies.

* Extrapolated, assuming a continuation of January-September trends of exports and imports, except for the eastern data which are secretariat estimates of the results for all of 1982.

^b Southern Europe is included in western Europe.

4.4(v) Current account

After running current account deficits in convertible currency transactions throughout the past decade, *eastern Europe* is likely to have recorded a surplus in 1982. This significant change was largely the result of a

substantial convertible-currency trade surplus and a decline in its deficit on invisibles.

For an appraisal of the scope of eastern adjustment in response to world economic developments in recent years, and in particular in 1981 and 1982, a broader perspective of eastern external economic relations than

TABLE 4.4.5

Estimated current account balance of payments of eastern Europe and the Soviet Union with market economies, 1979-1982
(Billions of US dollars)

	Trade balances ^a with market economies		Net services plus transfers ^c	of which: Investment income	Current account
	Total	of this: DME ^b			
Bulgaria					
1979	0.7	0.1	-0.2	-0.3	0.5
1980	1.0	0.1	-0.3	-0.4	0.7
1981	0.7	-0.6	-0.2	-0.3	0.5
1982	0.6	-0.6	-0.1	-0.2	0.6
Czechoslovakia					
1979	-0.4	-0.7	-0.3	-0.2	-0.7
1980	—	-0.4	-0.4	-0.3	-0.4
1981	0.3	-0.3	-0.5	-0.5	-0.2
1982	0.4	-0.1	-0.3	-0.3	0.1
German Democratic Republic					
1979	-1.8	-1.8	0.4	-0.8	-1.4
1980	-1.7	-1.7	—	-1.2	-1.7
1981	—	-0.5	-0.2	-1.4	-0.2
1982	1.4	0.9	0.4	-1.0	1.8
Hungary^d					
1979	-0.6	-0.5	-0.7	-0.4	-1.3
1980	-0.6	-0.6	-0.6	-0.4	-1.2
1981	-0.8	-1.0	-1.2	-1.1	-2.0
1982	-0.3	-0.6	-1.0	-1.0	-1.3
Poland					
1979	-1.7	-1.4	-1.3	-1.7	-3.0
1980	-1.0	-0.7	-1.9	-2.3	-2.9
1981	—	-0.5	-2.0	-2.5	-2.0
1982	1.5	0.7	-2.3	-2.4	-0.8
Romania					
1979	-1.1	-0.2	-0.5	-0.4	-1.6
1980	-1.9	—	-0.9	-0.8	-2.8
1981	0.2	0.5	-1.0	-1.0	-0.8
1982	1.4	1.5	-0.9	-0.9	0.6
Eastern Europe					
1978	-4.9	-5.5	-2.1	-2.4	-7.0
1979	-4.8	-4.6	-2.6	-3.7	-7.4
1980	-4.2	-3.3	-4.1	-5.4	-8.3
1981	0.4	-2.4	-5.2	-6.8	-4.8
1982	5.0	1.8	-4.1	-5.8	1.0
Soviet Union					
1978	0.9	-2.8	0.5	-0.8	1.4
1979	4.2	0.6	0.2	-1.0	4.4
1980	3.4	2.4	0.2	-1.1	3.6
1981	-0.7	-0.7	-0.3	-1.6	-1.0
1982	4.3	0.6	0.3	-1.0	4.6
Eastern Europe and Soviet Union^e					
1978	-4.0	-8.3	-1.9	-3.5	-5.9
1979	-0.6	-4.0	-2.8	-5.1	-3.4
1980	-0.8	-0.8	-4.4	-7.0	-5.2
1981	-0.3	-3.2	-6.1	-9.0	-6.4
1982	9.3	2.3	-4.3	-7.3	5.1

Source: As for table 4.3.2 (trade balances), national data and secretariat estimates (net services and investment income).

Note: A positive balance indicates a surplus for the eastern economies.

^a Trade balance *f.o.b.-f.o.b.*, except for Hungarian imports which are shown *c.i.f.* in the national returns.

^b Developed market economies (see footnote 356).

^c Invisibles balances are ECE secretariat estimates, except in the cases of Hungary, Poland and Romania: Polish official data have been adjusted to include interest arrears in the years in which they were incurred, to conform to IMF *Balance of Payments Manual* recommendations.

^d See also footnote 369 on national data covering all convertible currency transactions.

^e Includes estimated investment income deficit of the CMEA banks.

that provided by the limited east-west framework used elsewhere in this section is required. This applies in particular to the evaluation of the changes noted in section 4.1 in the financial balance in convertible currencies. As an *approximation* to the trade balance component of the eastern convertible currency current account, the eastern trade balance with the market economies is used below. In addition to the west, as that term has been defined in this section, this grouping includes the developed countries of the southern hemisphere and the developing countries, most of which conduct trade on a convertible currency basis.^{368, 369}

The improvement in the east European trade balance with all market economies has been more pronounced than that in transactions with the developed market economies alone (see table 4.4.5). The trade deficit, which was about \$5 billion in 1978, declined progressively and swung into a small surplus in 1981. In 1982, the surplus is estimated at \$5 billion. The trade balance of the Soviet Union with the market economies is normally in surplus, but a deficit of almost \$1 billion was recorded in 1981; in 1982, there was a surplus of over \$4 billion.

Several years ago the deficit in *investment income* became a major component of the eastern current account (table 4.4.5). The growth in net payments under this heading was due, on the one hand, to the accumulation of external debt and, on the other, to increasing interest rates. In 1981, the net outflow is estimated to have reached some \$9 billion.³⁷⁰ However, falling interest rates on commercial credits in the second half of 1982, and a decline in net debt outstanding, led to a reduction in the "investment income" deficit to an estimated \$7 billion in 1982. The latter figure would imply a reduction of some \$2 billion in eastern outlays on this account relative to the previous year.

The net result of these changes in the trade and invisibles account of eastern Europe has been dramatic: current account deficits of \$7–8 billion in 1978–1980 were turned into a surplus of \$1 billion in 1982.

In several cases, the substantial increase in eastern investment income deficits in the late 1970s and early

³⁶⁸ Eastern trade with the developing countries has been increasingly carried out in terms of convertible currencies rather than through the system of bilateral clearing arrangements which predominated in the past. Although the experiences of the individual eastern countries vary substantially, in general they have had increasing surpluses with the developing countries for several years. For eastern Europe as a whole, a deficit of some \$400 million in 1980 was converted to a surplus of \$3.4 billion in 1981, and it is likely that a larger surplus was recorded in 1982.

³⁶⁹ It should be noted that a number of eastern countries (Hungary, Poland and Romania) have recently published current account data for their convertible currency transactions. This covers not only transactions with non-socialist partner countries, but also convertible currency transactions with CMEA member countries.

Hungarian trade data show that the convertible-currency trade surplus in recent years originates entirely in trade with socialist countries, offsetting a substantial deficit in trade with market economies. Official Hungarian current account statistics for convertible currencies show deficits of \$826 million in 1979, \$368 million in 1980, and \$727 million in 1981. Preliminary data put the deficit in 1982 at \$195 million.

Official Polish current account statistics in terms of all convertible currency transactions show deficits of \$3517 million in 1979, \$2612 million in 1980, \$2059 million in 1981, and \$1061 million in 1982. In this presentation, both trade and invisible flows are recorded on a "financial settlement" basis, in contrast to the "customs clearance" basis used for trade flows and the "liability accrual" basis used for interest estimates in table 4.4.5.

According to Romanian statements a current account surplus of \$655 million was recorded in 1982 and a further surplus of \$670 million is expected in 1983 (*Financial Times*, 21.1.1983, p.1). It may be noted that this performance on current account in 1982 represents a substantial improvement over the official forecasts made in the first half of 1982. These estimates envisaged a \$550 million current account deficit in convertible currencies. The difference appears to reflect both a better trade balance than forecast as well as the recent fall in interest rates.

³⁷⁰ Eastward investment income flows arise from eastern foreign exchange on deposit in western banks. High interest rates have raised the income generated by these assets.

1980s had an evident impact on import policies. That is to say, given existing constraints – current account deficits, faltering export growth, and the limits on further debt accumulation – a rise in the deficit on the invisibles account would impose a stricter constraint on import possibilities than would otherwise have been the case.

This constellation would seem to fit the simultaneity of the rise in invisible deficits, reflecting mainly the rise in net interest payments, and the reductions in trade deficits (or increases in surpluses) observed in the case of Czechoslovakia and the German Democratic Republic, and a similar bind accentuated the impact of supply side factors in Poland and probably also in Romania (table 4.4.5). The situation of Romania, in this regard, was complicated by the significant increase of its trade deficit with the market economies following the second round of oil price increases. For eastern Europe as a whole, the invisibles deficit rose from \$2.1 billion in 1978 to \$5.2 billion in 1981, while convertible currency trade deficits were cut progressively, as noted, largely through limits on imports.

Thus, it is possible to view the eastern debt as a medium through which disturbances from world markets, namely the rise in interest rates from 1979, have been transmitted to the economies of eastern Europe. At the same time, another external shock, the fall in world demand, has been transmitted to the east through physical trade flows, a more traditional type of mechanism. The simultaneous disturbances from the real and financial spheres have necessarily made external adjustment increasingly difficult.

By contrast, the balance on invisibles in the current account of the *Soviet Union* has been small. Thus its current account balance with the market economies has followed the large swings which are typical of its trade balances. In 1981, the Soviet Union registered a current account deficit after several years of surpluses. But the Soviet Union has been relatively less affected by the external disturbances discussed above by virtue of its relatively low debt, the structure of this debt (i.e., weighted heavily toward fixed rate credits) and its ability to export increasing amounts of energy in spite of the sluggish overall western demand for imports.

Another external disturbance for the eastern countries, in the form of restricted access to credit, arose in the second half of 1981 and intensified in 1982. The adjustment which it has induced has been more dramatic than that which took place between 1978 and 1981.

As can be seen in table 4.4.5, the eastern current account changed from a deficit of more than \$6 billion in 1981 to an estimated surplus of \$5 billion in 1982, a \$11 billion turnaround in a single year. Eastern Europe accounts for \$6 billion of this swing, and the Soviet Union for the remainder. The resulting surplus is broadly consistent with the reduction in net external debt of the eastern countries as reflected in the net liability data reported by the Bank for International Settlements (see section 4.1).

The basic pre-condition for reducing external debt in convertible currencies is to run a convertible currency current account surplus, as the eastern countries did in 1982. However, a reduction in debt can occur either by intention or involuntarily. In the former situation, a country with a surplus on current account simply makes scheduled or early repayments on outstanding loans without seeking new credits.³⁷¹ By contrast, involuntary

³⁷¹ Bulgaria had *de facto* followed such a policy for a number of years. As noted earlier, the Romanian authorities have under somewhat different conditions, announced their intention to reduce Romania's external debt by one half in the coming three years and to eliminate it completely during the course of 1987–1988.

debt reductions can occur if a country is unable to obtain new credits but continues to meet its repayment obligations. In this case, it must run a current account surplus equal to repayments (assuming that it maintains its assets at a constant level).

With limited information available, it can be difficult in practice to distinguish between a voluntary reduction of debt and one imposed by financial market conditions. It has been argued above (section 4.1(iii)), however, that eastern Europe's restricted access to commercial credits

did not appear to ease during the course of 1982, or for that matter, in early 1983.³⁷² If this has in fact been the case, then eastern Europe's current account surpluses and accompanying reductions in debt have been the result of attitudes prevalent in the financial markets.³⁷³

³⁷² In general, access to officially-backed credits continued, but the flow is likely to have slowed in 1982.

³⁷³ This interpretation appears to be corroborated by the experience of at least one eastern country. For a discussion of the Czechoslovak case, see Potac, *Plánované hospodárství*, *loc.cit.*

APPENDIX TABLE 1

East-west trade, by country: growth rates, 1976-1982

(Annual percentage change over same period in previous year, in US dollar terms)

	Western exports							Western imports						
	1976	1977	1978	1979	1980	1981	Jan.-Sept. 1982	1976	1977	1978	1979	1980	1981	Jan.-Sept. 1982
<i>Western trade with:</i>														
Bulgaria	-13	-6	22	14	31	14	-17	22	7	14	53	12	-14	-6
Czechoslovakia	9	-2	14	20	11	-16	-8	4	9	15	27	17	-11	-1
German Dem. Rep. ^a	13	-7	25	54	7	-1	-30	3	11	17	18	26	7	6
German Dem. Rep. ^b	10	2	22	32	9	-8	-14	9	11	15	24	24	-4	5
Hungary	—	26	29	1	11	-1	-12	15	21	15	27	11	-11	-8
Poland	1	-9	11	8	8	-33	-29	13	7	12	16	8	-34	-13
Romania	1	14	29	26	4	-23	-41	23	-4	21	36	6	1	-24
Eastern Europe ^a	2	1	19	17	9	-16	-24	13	7	15	25	12	-14	-9
Eastern Europe ^b	2	2	20	17	10	-16	-21	13	8	15	26	13	-13	-7
Soviet Union	9	-1	16	20	16	8	4	23	14	11	42	31	-3	8
Eastern Europe and Soviet Union ^a	6	—	18	19	12	-4	-8	18	11	13	34	22	-8	1
Eastern Europe and Soviet Union ^b	6	1	18	18	12	-4	-8	17	11	13	34	22	-8	-5
<i>of which: Trade between western Europe and eastern Europe and the Soviet Union</i>														
Bulgaria	-15	-5	20	15	24	7	-11	22	9	14	53	14	-15	-6
Czechoslovakia	5	1	14	12	12	-14	-8	4	9	14	28	18	-12	-1
German Dem. Rep. ^a	6	-4	16	35	11	7	-34	4	10	15	18	26	6	6
German Dem. Rep. ^b	7	4	18	24	11	-6	-14	9	10	15	24	24	-5	5
Hungary	—	26	30	2	10	—	-11	15	22	14	26	12	-12	-9
Poland	—	-8	8	8	10	-37	-24	12	7	10	19	10	-36	-8
Romania	-1	11	34	27	-3	-22	-36	21	-6	16	42	9	-8	-22
Eastern Europe ^a	—	2	18	14	9	-16	-21	12	8	13	27	14	-16	-7
Eastern Europe ^b	1	3	18	14	9	-15	-17	12	8	14	27	15	-15	-6
Soviet Union	—	12	9	17	32	1	-5	27	13	13	43	34	-2	10
Eastern Europe and Soviet Union ^a	—	6	14	15	19	-7	-12	19	10	13	35	25	-8	3
Eastern Europe and Soviet Union ^b	—	6	15	15	18	-8	-11	18	10	13	35	25	-8	3
<i>Reporting country:</i>														
Austria	1	10	18	20	5	-14	-5	15	15	11	27	34	6	-13
Belgium-Luxembourg	-6	-4	12	24	24	-15	-24	-4	22	15	29	53	-10	40
Denmark	-9	1	18	11	5	-27	-22	10	-15	15	35	10	-28	19
Finland	15	13	3	3	55	32	4	2	11	—	47	45	-1	-10
France	5	2	5	38	15	-16	-32	18	11	16	28	62	-6	-4
Germany, Fed. Rep. ^a	-3	6	16	13	9	-20	-3	26	12	25	42	7	-11	8
Greece	10	17	15	-7	45	-34	-1	48	-4	70	-11	3	-3	6
Iceland	—	51	-21	30	29	-14	-18	7	15	-7	51	6	-14	8
Ireland	-40	47	30	87	55	-32	-44	—	30	11	45	-25	-22	3
Italy	-10	16	6	9	3	-10	-2	29	6	7	32	41	-10	14
Netherlands	-4	7	15	22	24	-3	-32	18	11	16	49	26	16	26
Norway	8	—	16	-23	8	-1	-8	38	15	-19	24	-7	8	60
Portugal	92	-2	-8	29	-5	-7	-12	96	—	-19	55	8	23	-57
Spain	18	-6	25	54	—	44	-54	-7	-19	10	47	37	11	1
Sweden	-6	-9	4	19	2	-13	-26	4	1	-5	63	-8	-21	17
Switzerland	7	11	21	—	-1	-20	-5	45	20	41	34	25	-13	12
Turkey	36	5	86	-7	60	-33	28	30	5	13	60	22	5	-52
United Kingdom	-9	24	29	9	28	-22	-31	26	17	4	30	-4	-44	23
Yugoslavia	8	-6	22	14	62	24	-6	17	18	11	23	40	—	-15
Western Europe ^a	—	6	14	15	19	-7	-12	19	10	13	35	25	-8	3
Southern Europe ^c	12	-3	25	14	50	16	-11	19	9	16	24	32	2	-17
Canada	31	-31	36	33	79	7	20	19	-4	7	33	-11	1	-31
United States	26	-28	45	54	-32	11	-5	19	6	36	8	5	13	-30
North America	27	-28	43	51	-16	9	2	19	4	31	12	2	11	-30
Japan	27	-5	20	2	10	12	11	—	21	1	34	-4	-17	-7
Developed market economies ^a	6	—	18	19	12	-4	-8	18	11	13	34	22	-8	1

Source: Same as Table 4.4.1.

Note: Based on western data.

^a Excluding trade between the Federal Republic of Germany and the German Democratic Republic.^b Including trade between the Federal Republic of Germany and the German Democratic Republic.^c Includes Greece, Portugal, Spain, Turkey and Yugoslavia.

APPENDIX TABLE 2

East-west trade, by country: values, 1970, 1975, 1978-1982
(Billion of US dollars. f.o.b.-f.o.b.)

Western trade with:	Western exports							Western imports						
	1970	1975	1978	1979	1980	1981	1982 ^a	1970	1975	1978	1979	1980	1981	1982 ^a
Bulgaria	0.35	1.15	1.15	1.31	1.72	1.97	1.64	0.25	0.43	0.63	0.97	1.08	0.94	0.90
Czechoslovakia	0.87	2.10	2.57	3.07	3.41	2.85	2.64	0.81	1.83	2.39	3.04	3.57	3.16	3.14
German Dem. Rep. ^b	0.48	1.32	1.73	2.65	2.83	2.81	2.00	0.44	1.18	1.56	1.84	2.31	2.47	2.61
German Dem. Rep. ^c	1.14	2.91	3.99	5.27	5.75	5.28	4.61	0.99	2.53	3.51	4.35	5.38	5.15	5.43
Hungary	0.67	1.91	3.10	3.13	3.49	3.46	3.06	0.54	1.29	2.07	2.63	2.92	2.61	2.40
Poland	0.92	5.59	5.73	6.21	6.69	4.48	3.25	1.03	3.18	4.33	5.03	5.45	3.59	3.13
Romania	0.73	2.09	3.08	3.88	4.03	3.11	1.92	0.54	1.68	2.40	3.26	3.45	3.47	2.69
Eastern Europe ^b	4.02	14.17	17.35	20.25	22.17	18.67	14.52	3.61	9.58	13.38	16.78	18.79	16.24	14.87
Eastern Europe ^c	4.68	15.76	19.61	22.87	25.08	21.15	17.14	4.16	10.93	15.33	19.29	21.85	18.92	17.69
Soviet Union	2.81	13.17	16.64	20.04	23.15	24.95	26.20	2.50	9.00	13.95	19.84	25.98	25.13	27.67
Eastern Europe and Soviet Union ^b	6.83	27.34	33.99	40.29	45.32	43.62	40.72	6.12	18.58	27.33	36.62	44.76	41.36	42.54
Eastern Europe and Soviet Union ^c	7.49	28.94	36.25	42.91	48.23	46.10	43.34	6.66	19.93	29.28	39.13	47.83	44.05	45.36
<i>of which: Trade between western Europe and eastern Europe and the Soviet Union</i>														
Bulgaria	0.31	1.07	1.04	1.20	1.49	1.59	1.43	0.24	0.39	0.60	0.91	1.03	0.88	0.85
Czechoslovakia	0.83	1.99	2.42	2.72	3.05	2.63	2.43	0.74	1.73	2.24	2.88	3.40	2.99	2.98
German Dem. Rep. ^b	0.44	1.25	1.48	2.00	2.21	2.36	1.60	0.40	1.13	1.50	1.77	2.22	2.37	2.50
German Dem. Rep. ^c	1.10	2.84	3.74	4.62	5.12	4.83	4.22	0.94	2.49	3.45	4.28	5.05	5.05	5.32
Hungary	0.62	1.80	2.95	3.00	3.29	3.28	2.92	0.52	1.23	1.96	2.47	2.77	2.43	2.22
Poland	0.82	4.64	4.59	4.97	5.45	3.42	2.64	0.89	2.83	3.76	4.46	4.89	3.12	2.86
Romania	0.63	1.71	2.50	3.17	3.09	2.41	1.61	0.52	1.48	1.96	2.78	3.03	2.79	2.21
Eastern Europe ^b	3.65	12.45	14.97	17.05	18.57	15.69	12.64	3.31	8.79	12.02	15.27	17.35	14.57	13.63
Eastern Europe ^c	4.31	14.05	17.24	19.67	21.48	18.16	15.25	3.86	10.15	13.97	17.78	20.42	17.26	16.45
Soviet Union	2.26	9.31	11.41	13.32	17.55	17.77	17.05	2.02	7.69	12.39	17.77	23.88	23.40	26.16
Eastern Europe and Soviet Union ^b	5.90	21.77	26.39	30.37	36.12	33.46	29.68	5.33	16.48	24.41	33.03	41.23	37.97	39.79
Eastern Europe and Soviet Union ^c	6.56	23.36	28.65	32.99	39.03	35.94	32.29	5.88	17.84	26.36	35.54	44.30	40.66	42.61
<i>Western trade balances</i>														
Western trade with:	1970	1975	1976	1977	1978	1979	1980	1981	1982 ^a					
Bulgaria	0.10	0.73	0.48	0.39	0.51	0.34	0.63	1.03	0.75					
Czechoslovakia	0.06	0.28	0.40	0.17	0.18	0.03	-0.16	-0.32	-0.49					
German Dem. Rep. ^b	0.04	0.14	0.28	0.05	0.17	0.81	0.52	0.34	-0.61					
German Dem. Rep. ^c	0.16	0.38	0.44	0.22	0.48	0.92	0.36	0.13	-0.82					
Hungary	0.13	0.63	0.42	0.61	1.04	0.50	0.56	0.85	0.66					
Poland	-0.11	2.41	2.02	1.29	1.40	1.18	1.24	0.88	0.12					
Romania	0.18	0.41	0.04	0.42	0.68	0.62	0.58	-0.36	-0.77					
Eastern Europe ^b	0.41	4.59	3.64	2.93	3.97	3.47	3.38	2.43	-0.35					
Eastern Europe ^c	0.52	4.83	3.80	3.10	4.28	3.58	3.23	2.22	-0.55					
Soviet Union	0.31	4.17	3.38	1.78	2.69	0.20	-2.82	-0.18	-1.47					
Eastern Europe and Soviet Union ^b	0.72	8.77	7.02	4.71	6.67	3.67	0.56	2.26	-1.81					
Eastern Europe and Soviet Union ^c	0.83	9.00	7.18	4.88	6.98	3.78	0.40	2.05	-2.20					
<i>of which: Trade between western Europe and eastern Europe and the Soviet Union, by country</i>														
Bulgaria	0.07	0.68	0.43	0.34	0.44	0.29	0.45	0.70	0.58					
Czechoslovakia	0.08	0.27	0.30	0.17	0.18	-0.16	-0.35	-0.36	-0.55					
German Dem. Rep. ^b	0.04	0.11	0.15	-0.02	-0.02	0.23	-0.01	0.01	-0.90					
German Dem. Rep. ^c	0.15	0.35	0.31	0.15	0.29	0.34	-0.17	-0.22	-1.11					
Hungary	0.10	0.57	0.39	0.55	0.98	0.52	0.52	0.85	0.70					
Poland	-0.07	1.81	1.45	0.86	0.83	0.52	0.55	0.30	-0.22					
Romania	0.11	0.22	-0.11	0.18	0.54	0.39	0.06	-0.38	-0.61					
Eastern Europe ^b	0.33	3.66	2.61	2.07	2.96	1.79	1.22	1.12	-0.99					
Eastern Europe ^c	0.45	3.90	2.77	2.24	3.27	1.90	1.06	0.90	-1.20					
Soviet Union	0.24	1.62	-0.41	-0.55	-0.98	-4.45	-6.33	-5.62	-9.12					
Eastern Europe and Soviet Union ^b	0.57	5.29	2.20	1.52	1.97	-2.66	-5.11	-4.51	-10.11					
Eastern Europe and Soviet Union ^c	0.68	5.52	2.36	1.69	2.28	-2.55	-5.26	-4.72	-10.31					

APPENDIX TABLE 2 (CONTINUED)

Reporting country:	Western exports							Western imports						
	1970	1975	1978	1979	1980	1981	1982 ^a	1970	1975	1978	1979	1980	1981	1982 ^a
Austria	0.37	1.28	1.67	2.00	2.11	1.81	1.73	0.32	0.92	1.35	1.71	2.29	2.41	2.11
Belgium - Luxembourg	0.17	0.85	0.85	1.06	1.31	1.11	0.85	0.17	0.58	0.79	1.01	1.54	1.39	1.99
Denmark	0.11	0.29	0.32	0.35	0.37	0.27	0.21	0.14	0.49	0.53	0.71	0.78	0.56	0.69
Finland	0.36	1.31	1.75	1.81	2.81	3.71	3.84	0.40	1.47	1.68	2.46	3.56	3.52	3.18
France	0.65	2.60	2.92	4.03	4.64	3.91	2.67	0.42	1.62	2.45	3.14	5.08	4.77	4.59
Germany, Fed. Rep. ^b	1.30	6.46	7.71	8.69	9.44	7.59	7.39	1.03	3.08	5.43	7.71	8.26	7.31	7.89
Greece	0.11	0.26	0.39	0.36	0.52	0.34	0.34	0.09	0.24	0.58	0.52	0.54	0.52	0.55
Iceland	0.01	0.04	0.05	0.06	0.08	0.07	0.06	0.01	0.06	0.06	0.09	0.10	0.09	0.09
Ireland	0.01	0.03	0.04	0.07	0.11	0.08	0.04	0.03	0.09	0.13	0.18	0.14	0.11	0.11
Italy	0.70	2.17	2.41	2.64	2.73	2.47	2.43	0.73	1.78	2.61	3.45	4.87	4.37	5.01
Netherlands	0.21	0.79	0.94	1.15	1.42	1.38	0.96	0.20	0.75	1.15	1.71	2.16	2.50	3.26
Norway	0.06	0.25	0.32	0.25	0.27	0.26	0.25	0.08	0.24	0.31	0.39	0.36	0.39	0.61
Portugal	0.01	0.04	0.07	0.10	0.09	0.08	0.07	0.01	0.08	0.12	0.19	0.20	0.25	0.11
Spain	0.07	0.26	0.35	0.55	0.55	0.79	0.37	0.06	0.43	0.35	0.52	0.71	0.79	0.82
Sweden	0.34	1.09	0.98	1.18	1.20	1.04	0.78	0.31	1.02	1.01	1.65	1.51	1.19	1.48
Switzerland	0.21	0.74	1.07	1.07	1.06	0.85	0.81	0.13	0.33	0.82	1.10	1.37	1.19	1.34
Turkey	0.08	0.12	0.32	0.30	0.48	0.32	0.43	0.10	0.22	0.34	0.54	0.66	0.69	0.33
United Kingdom	0.60	1.29	1.87	2.05	2.63	2.05	1.43	0.55	1.39	2.14	2.78	2.67	1.48	1.85
Yugoslavia	0.54	1.87	2.33	2.66	4.30	5.35	5.01	0.54	1.69	2.58	3.17	4.43	4.44	3.77
Western Europe ^b	5.90	21.77	26.39	30.37	36.12	33.46	29.68	5.33	16.48	24.41	33.03	41.23	37.97	39.79
Southern Europe ^d	0.80	2.55	3.47	3.97	5.94	6.88	6.23	0.80	2.65	3.97	4.94	6.54	6.69	5.58
Canada	0.13	0.60	0.74	0.99	1.77	1.89	2.27	0.06	0.15	0.19	0.25	0.22	0.23	0.16
United States	0.35	2.78	3.67	5.66	3.84	4.26	4.30	0.23	0.73	1.24	1.35	1.41	1.60	1.13
North America	0.49	3.38	4.41	6.65	5.62	6.15	6.57	0.29	0.88	1.43	1.60	1.64	1.82	1.29
Japan	0.45	2.20	3.20	3.26	3.58	4.01	4.47	0.49	1.21	1.48	1.98	1.90	1.57	1.46
Developed market economies ^b	6.83	27.34	33.99	40.29	45.32	43.62	40.72	6.12	18.58	27.33	36.62	44.76	41.36	42.54

Reporting country:	Western trade balances								
	1970	1975	1976	1977	1978	1979	1980	1981	1982 ^a
Austria	0.05	0.36	0.23	0.21	0.33	0.29	-0.18	-0.61	-0.38
Belgium - Luxembourg	0.00	0.27	0.23	0.08	0.07	0.05	-0.23	-0.28	-1.14
Denmark	-0.02	-0.20	-0.27	-0.19	-0.21	-0.36	-0.41	-0.29	-0.48
Finland	-0.04	-0.16	0.00	0.03	0.08	-0.65	-0.75	0.19	0.66
France	0.22	0.99	0.83	0.66	0.47	0.89	-0.43	-0.86	-1.92
Germany Fed. Rep. ^b	0.26	3.37	2.37	2.32	2.28	0.98	1.18	0.27	-0.50
Greece	0.02	0.02	-0.07	-0.01	-0.20	-0.16	-0.02	-0.18	-0.21
Iceland	0.00	-0.01	-0.02	-0.01	-0.01	-0.03	-0.02	-0.02	-0.04
Ireland	-0.02	-0.05	-0.07	-0.08	-0.09	-0.11	-0.03	-0.03	-0.07
Italy	-0.03	0.39	-0.34	-0.15	-0.19	-0.81	-2.15	-1.90	-2.58
Netherlands	0.01	0.04	-0.13	-0.17	-0.21	-0.57	-0.74	-1.12	-2.31
Norway	-0.02	0.01	-0.06	-0.11	0.01	-0.14	-0.09	-0.13	-0.36
Portugal	-0.00	-0.03	-0.07	-0.07	-0.05	-0.09	-0.11	-0.17	-0.03
Spain	0.01	-0.17	-0.09	-0.04	0.00	0.03	-0.17	-0.01	-0.46
Sweden	0.03	0.08	-0.02	-0.12	-0.02	-0.47	-0.31	-0.15	-0.70
Switzerland	0.08	0.41	0.31	0.30	0.25	-0.03	-0.31	-0.34	-0.53
Turkey	-0.02	-0.10	-0.12	-0.12	-0.01	-0.24	-0.18	-0.37	0.10
United Kingdom	0.05	-0.10	-0.58	-0.60	-0.27	-0.73	-0.04	0.57	-0.42
Yugoslavia	-0.00	0.18	0.06	-0.42	-0.25	-0.51	-0.12	0.91	1.24
Western Europe ^b	0.57	5.29	2.20	1.52	1.97	-2.66	-5.11	-4.51	-10.11
Southern Europe ^d	0.00	-0.10	-0.29	-0.65	-0.50	-0.97	-0.59	0.19	0.64
Canada	0.07	0.45	0.60	0.37	0.55	0.74	1.55	1.67	2.11
United States	0.13	2.05	2.63	1.62	2.42	4.31	2.43	2.66	3.17
North America	0.19	2.50	3.24	1.99	2.98	5.05	3.98	4.33	5.28
Japan	-0.05	0.98	1.58	1.20	1.72	1.28	1.69	2.44	3.01
Developed market economies ^b	0.72	8.77	7.02	4.71	6.67	3.67	0.56	2.26	-1.81

Sources: As for table 4.4.1.

Note: Based on western sources. A positive balance indicates a western surplus.

^a Extrapolated assuming a continuation of Jan.-Sept. trends of exports and imports.^b Excluding trade between the Federal Republic of Germany and the German Democratic Republic.^c Including trade between the Federal Republic of Germany and the German Democratic Republic.^d Southern Europe, as in Appendix table 1.

APPENDIX TABLE 3
Changes in the value of western imports from eastern Europe and the Soviet Union in 1982, by commodity^a

SITC SECTION	Bulgaria	Czechoslovakia	German Democratic Republic	Hungary	Poland	Romania	Eastern Europe	Soviet Union
<i>(In per cent)</i>								
Food and live animals(0)	-11	12	-33	1	-23	-25	-12	4
Beverages and tobacco(1)	-9	11	165	-8	10	-3	-5	10
Crude materials(2)	-1	—	-4	5	-25	-25	-10	-7
Mineral fuels(3)	-34	—	33	-32	13	-31	-12	10
Coal(32)	—	16	36	-11	26	-69	24	-16
Oil and oil products(33)	-39	-11	32	-35	-36	-31	-24	16
Animal and vegetable oils(4)	1256	-47	2	-1	29	217	36	-30
Chemicals(5)	-4	13	10	—	-31	21	3	-13
Manufactured goods(6)	18	10	14	3	-23	-23	-7	24
Machinery, transport equipment(7)	-26	-16	6	-6	-41	-26	-20	-8
Miscellaneous manufactures(8)	2	-6	-3	-11	-21	10	-4	-23
Not elsewhere classified(9)	-18	-31	-35	-24	-13	-22	-24	50
TOTAL(0-9)	-12	2	8	-5	-18	-18	-9	8
<i>(In millions of US dollars)</i>								
Food and live animals(0)	-8	12	-21	3	-80	-29	-122	5
Beverages and tobacco(1)	-4	1	—	-2	1	—	-4	1
Crude materials(2)	—	-1	-2	7	-59	-16	-71	-106
Mineral fuels(3)	-47	—	56	-41	58	-268	-242	1000
Coal(32)	—	20	5	—	89	—	118	-43
Oil and oil products(33)	-53	-20	51	-41	-37	-269	-369	1151
Natural gas(34)	2	1	—	2	—	1	7	130
Animal and vegetable oils(4)	5	-1	—	—	1	13	17	-1
Chemicals(5)	-2	20	18	—	-35	18	19	-81
Manufactured goods(6)	10	40	23	7	-117	-78	-115	165
Machinery, transport equipment(7)	-8	-28	9	-10	-119	-36	-193	-19
Miscellaneous manufactures(8)	1	-11	-5	-29	-53	40	-56	-13
Not elsewhere classified(9)	-1	6	-2	-5	-2	-1	-17	228
TOTAL (0-9)	-54	26	76	-70	-405	-359	-785	1178

^a First three quarters of 1982 relative to the same period in 1981.

APPENDIX TABLE 4
Changes in the value of western exports to eastern Europe and the Soviet Union in 1982, by commodity^a

SITC SECTION	Bulgaria	Czechoslovakia	German Democratic Republic	Hungary	Poland	Romania	Eastern Europe	Soviet Union
<i>(In per cent)</i>								
Food and live animals(0)	-59	13	-29	-46	-46	-82	-50	3
Beverages and tobacco(1)	-14	-28	-31	31	-42	-71	-31	-60
Crude materials(2)	-20	-17	-28	-23	-21	-8	-19	52
Mineral fuels(3)	69	-24	-37	-75	-18	-50	-49	64
Coal(32)	-9	—	30	-85	54	-52	-57	-83
Oil and oil products(33)	105	-25	-37	-46	-18	50	-15	64
Animal and vegetable oils(4)	64	209	-31	-21	109	-62	39	-24
Chemicals(5)	-14	-12	-36	-22	34	-27	-12	-13
Manufactured goods(6)	-9	-13	-11	-9	-17	-30	-15	17
Machinery, transport equipment(7)	-16	-1	-27	3	-41	-51	-21	25
Miscellaneous manufactures(8)	6	-16	-29	-1	1	-28	-9	-10
Not elsewhere classified(9)	-49	-17	-48	-15	208	-30	33	11
TOTAL (0-9)	-19	-7	-26	-12	-27	-50	-25	11
<i>(In millions of US dollars)</i>								
Food and live animals(0)	-97	14	-93	-29	-553	-474	-1231	101
Beverages and tobacco(1)	-2	-1	-5	2	-6	-7	-19	-39
Crude materials(2)	-9	-20	-17	-24	-30	-10	-109	147
Mineral fuels(3)	4	-6	-1	-42	-3	-105	-152	85
Coal(32)	—	—	—	-35	—	-107	-142	—
Oil and oil products(33)	4	-6	-1	-7	-3	2	-10	85
Animal and vegetable oils(4)	1	6	-2	-1	20	-6	17	-15
Chemicals(5)	-28	-36	-57	-108	88	-65	-206	-198
Manufactured goods(6)	-23	-27	-28	-53	—	-116	-305	689
Machinery, transport equipment(7)	-70	-6	-110	17	-249	-157	-575	779
Miscellaneous manufactures(8)	3	-12	-13	-1	1	-17	-39	-82
Not elsewhere classified(9)	-10	-3	-4	-3	58	-3	35	14
TOTAL (0-9)	-231	-91	-330	-244	-729	-960	-2585	1481

^a First three quarters of 1982 relative to the same period in 1981.

كيفية الحصول على منشورات الأمم المتحدة

يمكن الحصول على منشورات الأمم المتحدة من المكتبات ودور التوزيع في جميع أنحاء العالم . استعلم عنها من المكتبة التي تتعامل معها أو اكتب إلى الأمم المتحدة ، قسم البيع في نيويورك أو في جنيف .

如何购取联合国出版物

联合国出版物在全世界各地的书店和经售处均有发售。请向书店询问或写信到纽约或日内瓦的联合国销售组。

HOW TO OBTAIN UNITED NATIONS PUBLICATIONS

United Nations publications may be obtained from bookstores and distributors throughout the world. Consult your bookstore or write to: United Nations, Sales Section, New York or Geneva.

COMMENT SE PROCURER LES PUBLICATIONS DES NATIONS UNIES

Les publications des Nations Unies sont en vente dans les librairies et les agences dépositaires du monde entier. Informez-vous auprès de votre libraire ou adressez-vous à : Nations Unies, Section des ventes, New York ou Genève.

КАК ПОЛУЧИТЬ ИЗДАНИЯ ОРГАНИЗАЦИИ ОБЪЕДИНЕННЫХ НАЦИЙ

Издания Организации Объединенных Наций можно купить в книжных магазинах и агентствах во всех районах мира. Наводите справки об изданиях в вашем книжном магазине или пишите по адресу: Организация Объединенных Наций, Секция по продаже изданий, Нью-Йорк или Женева.

COMO CONSEGUIR PUBLICACIONES DE LAS NACIONES UNIDAS

Las publicaciones de las Naciones Unidas están en venta en librerías y casas distribuidoras en todas partes del mundo. Consulte a su librero o diríjase a: Naciones Unidas, Sección de Ventas, Nueva York o Ginebra.
